

MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
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Business Interests of the South and Southwest

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Business Men and Legislators Recreat to Responsibilities

Under existing conditions, between 90 and 95 per cent. of the steel production of the country is dependent upon ore supplies which could be instantaneously cut off, leaving every industrial interest and all munition-making, shipbuilding and all Government preparedness work absolutely helpless.

Nearly 90 per cent. of the steel of the country is made out of ores which come from a region contiguous to Canada and pass through a mile-long canal which could be at any moment blocked by a few sticks of dynamite. The small amount of foreign ores upon which a few plants on the coast or near the coast depend would, of course, be immediately cut off in the event of war.

Less than 3 per cent. of the steel industry of the United States is so located that it would be safe from these dangers.

The blocking of the Sault Ste. Marie Canal (and this could be done by a few sticks of dynamite), through which 50,000,000 tons or more of iron ore annually pass, would cause a complete collapse of the whole iron and steel industry of Pennsylvania and the Lake region. Notwithstanding these facts, our iron and steel leaders and the financiers of the country go on in fancied security, making no effort to overcome a condition fraught with a danger so evident and so infinite in its possibilities of evil!

In a limited area, not exceeding 2 per cent. of the Nation's area, are concentrated all the munition and armor-making plants and kindred interests, leaving the other 98 per cent. of the country wholly unequipped for the production of iron or steel or munition industries in the event of war.

This situation almost surpasses human understanding or belief in the sanity and judgment of the iron and steel and financial people of the country. It is inconceivable that the Government can any longer permit it to last without being guilty of criminal folly beyond anything known in the history of civilized nations.

There is only one possible way in which this condition can be changed, and that way would mean a broader National material development, a rounding-out of the country's business activities, a broader National life and the salvation of the Nation, should we ever become involved in war.

Recreant to their responsibilities beyond any other business people or any other country on earth will be the business men and the legislators of this country if they permit these conditions longer to exist.

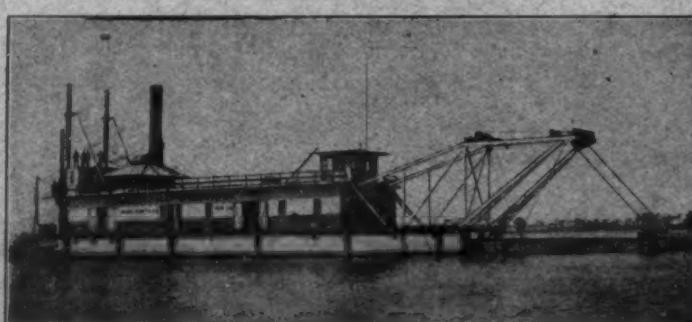
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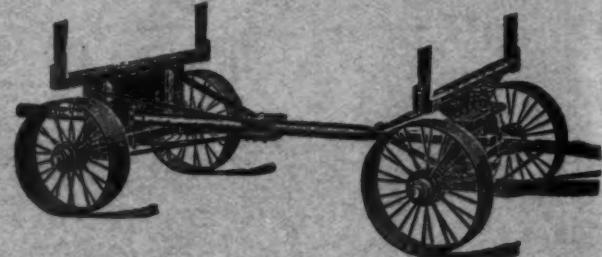
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MANUFACTURERS RECORD

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LACK OF CO-ORDINATION IN OUR MATERIAL DEVELOPMENT.

The Manufacturers Record submits the following suggestions for the consideration of its readers:

Our railroads have not been built nor equipped nor co-ordinated with any reference whatever to war conditions.

Our iron and steel industries have been developed without ever a thought of the possibilities of war or the dangers which would confront these interests, and thus the nation in event of war.

Our manufacturing concerns have never had to consider the question of a possibility of being prepared to meet a sudden demand for war supplies and war equipment.

Our highways, even those which have been built substantially of late years, have not been conceived, nor engineered, nor located with any relation whatsoever to proper co-ordination and use in the event of war.

We are as a country untrained, undrilled, unco-ordinated in every line of activity essential for the best development in time of peace, and for our only hope of safety in time of war.

We are like an untrained, unarmed, unorganized mob with stones and clubs going out to meet a modern, well-trained, well-equipped army. Death and destruction to the mob is certain if it undertakes to combat the well-trained, well-equipped soldiers.

These facts bear upon the whole industrial life of the nation in time of peace as well as in time of war.

We are not equipped from any point of view with the facilities which will enable us to meet the highly developed activities of Europe.

We are not equipped to get the best out of individual industries for their own good, as well as for that of the nation.

The study of all of these problems will be of infinite value to the country.

Every manufacturer who seriously enters into the investigation of this situation and shapes his business accordingly will have made an advance step for the betterment of his own business.

Every manufacturer who fails to do this permits himself to continue as one of the mob rather than as one of the trained army.

Protection the Dominant Note of the Awakening South

COMMENTING on the need for adequate protection on dyes in order to bring about a development of the dyemaking industry in this country, the Pittsburgh Gazette-Times says:

"Senator Underwood explains that textile manufacturers, the chief purchasers of dyes, want the duty lowered instead of raised."

If Senator Underwood made the statement credited by the Gazette-Times, he was very far wrong, for the consumers of dyestuffs in this country are heartily in favor of a protective tariff. At the annual meeting of the cotton manufacturers of the South, held in Atlanta in the early part of April, resolutions were enthusiastically passed, as published at the time in the MANUFACTURERS RECORD, in favor of adequate protection for the dye industry. These men, who represent the entire cotton mill industry of the South, said:

"We deem it essential that we be freed as promptly as possible from our dependence upon any foreign nation for our supply of dyestuffs," and to this they added a resolution expressing the hope that Congress would "give prompt and favorable consideration to the enactment of the tariff rates recommended by the New York section of the American Chemical Society, which will insure prompt expansion of the domestic dye industry," and to that added: "Be it further resolved, That we consider the tariff legislation as an emergency measure, which should command the support of all members of Congress, regardless of party affiliations."

The textile manufacturers of the South have thus put themselves on record in hearty favor of a protective tariff on dyes, just as they did more than fifteen years ago when they enthusiastically passed resolutions in favor of the development of a merchant marine by adequate subsidies.

The cotton mill people of the South have been leaders in expressing, publicly and through their annual meetings, the economic views which are held by so large a number of the business people of the South, but many of whom have not been equally as open and free in expressing their views on these great economic questions.

In a letter to the MANUFACTURERS RECORD, Hon. Thurston H. Allen, chairman of the Committee on Mining and Manufacturing of the Alabama Senate, said:

"Best wishes for your success on protection, for we are coming to your way of thinking down this way."

In his letter, published in this week's issue and from which an extract appeared on the cover page of last week, is the following statement:

"Your aggressive fight now being so vigorously waged for PROTECTION is appealing more to Alabama than anything you have ever done, and the thinking, working up-builders of the State are taking notice. They know and are beginning to realize that PROTECTION is what they need before they can have any real prosperity. We call Alabama the Pennsylvania of the South. What made Pennsylvania the richest mineral State of this Union? Only one answer can be given, PROTECTION. Anything else would not be good sense."

The views thus expressed by Mr. Allen, who speaks as a State Senator as well as a business man, are the views which are rapidly spreading throughout the entire South. Everywhere men are beginning to think more broadly on these economic questions. Men are realizing that the South has been held back, as compared with the marvelous wealth of the North and West, because it has constantly fought a pro-

tective tariff and thus kept manufacturers away, while other sections have advocated a protective tariff and have gotten the benefit of it.

This is not a moral issue. It is not a question where men would have to yield any principle, for, if it were, the MANUFACTURERS RECORD would stand for morality and principle regardless of financial results to the South or any other section. It is, on the contrary, merely a question of economics. It is not a question that should be decided by party affiliations, for parties are constantly shifting their stand on many economic questions. It so happens that the Republican party has, to a large extent, been in favor of a protective tariff, although it has on many occasions sacrificed the welfare of some interests—such, for instance, as the producer of raw materials—for the benefit of others. It has made many blunders and changed many policies on individual schedules in the tariff, and in advocating a protective tariff the Republicans are really but following the teachings of the old Whig party of ante-bellum days, which held so strong a position in the South.

Just because the Republicans have favored protection, and for no other reason on earth, a very large proportion of the adherents of the Democratic party have favored free trade. No question of morals or principles was involved.

The South has seen other sections grow enormously wealthy through the development of industrial interests due to adequate protection.

It has seen these manufacturing interests increase to an extent that we of the South can scarcely comprehend.

It has seen the farmers of the West and the North, with far less advantages than those of the South, prosper far beyond the farmers of this section.

It has seen the vaults of the savings banks of the manufacturing centers of the North and West almost bursting with the enormous deposits of the laboring people of those States.

It has seen schools and colleges and universities and libraries and churches and all other expressions of advancing civilization and Christianity marvelously expand under the increasing wealth of the North and West.

The South knows full well that it has greater natural advantages than these sections; it knows that inherently its people have equal ability and equal energy, but it knows that they have not the same opportunities for money-making, because industrial and agricultural progress has not been as great as elsewhere.

The South has seen its iron interests, notwithstanding the unequalled advantages of this section in the abundance and proximity of iron and coal, steadily falling behind the North and West as compared with conditions twenty years ago.

It has seen New England turning out as large a value of cotton goods as the entire South, notwithstanding the increase in the cotton mill interests of this section, and it has seen, as often stated in the MANUFACTURERS RECORD, that the boot and shoe business of Massachusetts produces a larger volume of value than the whole cotton industry of that section.

It has seen the savings banks of Massachusetts steadily increase their deposits until they exceed \$500,000,000.

The South has looked on and seen this vast accumulation of wealth and it has realized that wealth begets wealth, prosperity adds to prosperity and that "to him that hath shall be given," and, in the case of the North and West, it has been true that more and more has been given because these sections have had the energy and the enterprise and the broad vision to realize what a protective tariff meant for

their development and to utilize to the fullest extent this advantage.

We of the South, on the other hand, as a section have been steadily minimizing the possibilities of our development. We have kept capital away from the South by the bitter denunciation of a protective tariff by the dominant party of this section and by its newspapers.

We have railed against protection more than we have railed against the devil himself.

We have called those who, in other sections, have created vast interests and given employment to millions of people "robber barons," "tariff thieves" and "tariff hogs." But, while we have been doing this, these very people have created profitable employment for millions of people, utilized the resources which Nature has given to that section, made the farms of the North and West to "blossom as the rose," and enabled their countries to build better and larger schools, larger churches, establish more libraries and more art galleries, more hospitals and carry forward every other great work for the benefit of humanity.

In the meantime we have seen hundreds of thousands, and, since 1865, more than 3,500,000, Southern whites leave the South for other sections to find a larger field of opportunity elsewhere, because our policy in the South has produced poverty as compared with the vast riches created in other sections.

We have done much in the South, but we have not done one-half as much as we could have done. We are doing much in this section, but we could be doing twice as much if we had not been cursed by the bugaboo of the politicians as they have sought to frighten the people into following their false leadership, and if we had not since 1865 as a section voted solidly for free trade when as a section we needed the benefits of a protective tariff more than any other section of the country needed them.

There are signs everywhere in evidence that the South is no longer to be tied hand and foot by the political fetish of free trade. It is no longer content to be mentally enslaved and afraid to express its views on economic questions and to vote as it believes.

If the dominant party of this section, which, like the other party, has no moral principle whatever on the question of tariff or protection, but which has merely worn-out theories which it can cast aside on the sugar question or on any other question when the situation demands it, fails to realize and appreciate the rising tide of protection, it will be doomed to destruction.

We are hoping that the time will come when party names will count no more as between Democrats and Republicans, but that men will vote for their convictions regardless of whether they vote for this party or for that in name. It would be better for the country if both parties, so far as names are concerned, were forever buried and new parties with new names could come to the front and alignment be made not by party names, but by great economic questions affecting the welfare of the country.

We congratulate Mr. Allen and all others who like him are willing to express their convictions, and who see and are willing to say so, that PROTECTION is the dominant note of the awakening South.

YOUTH.

(From Bulletin American Iron & Steel Association.)

YOUTH is not a time of life; it is a state of mind. It is not a matter of ripe cheeks, red lips, and supple knees; it is a temper of the will, a quality of the imagination, a vigor of the emotions. It is the freshness of the deep springs of life.

Youth means a temperamental predominance of courage over timidity, of the appetite for adventure over the love of ease. This often exists in a man of fifty more than in a boy of twenty.

Nobody grows old by merely living a number of years. People grow old only by deserting their ideals.

Years wrinkle the skin; but to give up enthusiasm wrinkles the soul.

Worry, doubt, self-distrust, fear and despair—these are the long, long years that bow the heart and turn the greenling spirit back to dust.

Whether sixty or sixteen, there is in every human being's heart the lure of wonder, the sweet amaze-

ment at the stars and at starlike things and thoughts, the undaunted challenge of events, the unfailing, childlike appetite for what next, and the joy of the game of living. You are as young as your faith, as old as your doubt; as young as your self-confidence, as old as your fear; as young as your hope, as old as your despair.

In the central place of your heart is an evergreen tree; its name is Love. So long as it flourishes you are young. When it dies you are old. In the central place of your heart is a wireless station. So long as it receives messages of beauty, hope, cheer, grandeur, courage and power from God and from your fellowmen, so long are you young.

—Adapted from an exchange; author unknown.

ARE EFFORTS BEING MADE TO CREATE FALSE IMPRESSIONS AS TO THE DYE INDUSTRY AND MUNITION MAKING?

THAT the German Government and the dye manufacturers of Germany will do all in their power to prevent the development of the dyemaking business in this country may be accepted without question. The German dye industry, representing hundreds of millions of capital, will move heaven and earth, if it be possible, to prevent the establishment of dye factories here; and it is altogether within bounds to believe that as the dye industry is an important factor in the development of chemical industries connected with the manufacture of munitions of war the German Government will seek to do its utmost to prevent the development of munition-making in this country.

It has been repeatedly claimed that those most active in urging this country not to prepare for eventualities have been the most active in their pro-German sentiments.

It would be entirely feasible for the German dyemakers, through their representatives in this country, or the German Government, or the two working together, to spend a few millions of dollars, if need be, to prevent our development of the dye industry. This money could be expended in the building of plants for the express purpose of creating an impression that a tariff on dyes was not needed, and without any intention whatever of these plants ever going into operation.

If by spending a few million dollars in this way this country could be lulled into a false sense of security as to its dye and munition industry, German dyemakers could well afford to put up not only this amount, but much more in order to create a sentiment against the need of a tariff, or to create the impression that sufficient dyemaking industries will be established without a tariff, and then never put a single one of these plants into operation. Whether this will be done or not, we cannot say; but it is altogether a feasible proposition which should be watched with great care, and some well-informed men believe that this will be done.

There will also doubtless be many schemes launched upon the country for the establishment of dye and munition-making plants for the express purpose of creating a real estate boom and unloading town lots on an unsuspecting public, only to leave these plants either unfinished or without any hope of financial success if put into operation unless there be an adequate protective tariff.

The present situation will unquestionably be used by unscrupulous schemers to float securities of many kinds based on projected enterprises for the promised output of which there is now an active demand. These particular enterprises may, as has been the case many times in the past, be abandoned when all adjacent town lots have been disposed of, or when the public has been sufficiently hoodwinked to buy the securities. The bankers of the South and business men generally will need to watch the situation with very great care in order to prevent the creation of a wild town-lot boom which would react upon the whole country and throw the South back for many years in its legitimate development.

That pro-German influence has been actively at work to create an impression that a tariff is not needed in the dye industry is believed by many well-

informed people, and that every rumor of a projected dye plant is being used in Congress in this way was shown a few weeks ago, when the announcement of an enterprise about which no one has been able to secure any information was used in the Senate as proof that dye industries could be established without protection. It is also generally believed that pro-Germans in this country are among the most active in opposing Preparedness, and the question was asked some months ago by the MANUFACTURERS RECORD, "What is their reason for this stand?"

From a business man in New York, identified with the chemical industry, we have under date of April 18 a letter in which he says:

A CITIZENS' PREPAREDNESS PARADE is being organized in New York to take place May 13. I approached several organizations in which chemists and chemical engineers are largely represented, and proposed that they arrange for a "Chemical Section" in the parade. The reply was so astonishing that I am asking you to publish it; other citizens may wish to know.

In brief, there are numerous Germans or German-Americans in this profession. These persons look unfavorably upon such a parade, and apparently on the whole preparedness movement. For fear of offending them the organizations in question apparently find it more diplomatic not to participate as organizations, although individual members may be in sympathy with the preparedness movement.

WE DO NOT DARE TO BE AMERICANS WITHOUT HAVING THE APPROVAL OF THE GERMANS.

I do not know how many of your readers have seen the letter of a German professor, addressed to some professor with a German name in a New England university, in reply to questions as to what the attitude of Germany was toward the preparedness movement. This letter was intended as a guide for Germans and German-Americans here—almost a catechism. Germany, according to that professor, was decidedly oposed to our country arming itself for defense. Evidently the interests of Germany require that the United States be absolutely helpless and defenseless, as in this way it would be softer and easier to handle.

Pacifists and Utopian demagogues of the type of Henry Ford, William Jennings Bryan and others are consciously or unconsciously playing Germany's game. German propaganda knows how to work on such idealism and make good, practical use of it.

What is the answer of Americans to this?

The statements made in this letter demand the consideration of intelligent people of America.

How far has this pro-German propaganda made its influence felt in Congress and elsewhere through the devious ways which have been so successfully worked by Germany throughout this country during the last eighteen months?

How many of our people afflicted with Bryanitis have, like Bryan, been in active co-operation with pro-Germans in opposition to Preparedness?

How many have been unconsciously influenced by this campaign to lull our country into a false sense of security?

How many politicians and business men are afraid to voice their real views because they do not want to antagonize pro-German sentiments, pro-German votes or pro-German business affiliations?

One of the great bankers of America recently said to the MANUFACTURERS RECORD that, while heartily commending its stand for Preparedness, he regretted that by virtue of his wide affiliations with business men of all nationalities his bank dare not express any opinion on these vital questions of the hour. How many American business men and business organizations are like this banker, living in mental slavery, longing for freedom and yet lacking the backbone to dare to express their views?

Some of these people remind us of the story of Mike and Pat.

Mike died, and one of his friends, bemoaning his untimely end, said to Pat: "Mike was a good fellow, but he lacked backbone." "No," said Pat, "Mike had backbone, but he did not bring it to the front."

There are a good many Mikes in this country just now who may have a backbone, but they hide it so far away that it never comes to the front.

One striking illustration of how the German Government and dyestuff manufacturers can unitedly work to prevent the development of a dye industry in this country is seen in the recent announcement that the German Government has agreed to permit the exportation of 15,000 tons of dyestuffs and chemicals to the United States. In a lengthy discussion of this subject the Charlotte Observer, printed in the heart of the cotton mill section of the South, and expressing what is doubtless the view of all leading

dye consumers, closes with the following interesting statement:

"While no official statement has been received, it is understood that a practical agreement has been reached as to what prices shall be charged and that these have been determined by the German manufacturers acting in conjunction with the Imperial German Government.

Speculation among the mill men as to what actuated the Imperial German Government in allowing such a big shipment and on such terms, when, ever since the war, that nation has been obdurate in refusing all overtures, occasioned the greatest talk. That it is to be found in the rapid development of the industry in this country was the most generally accepted version given. The fact that such a world of the stuff was to come and that it was to be marketed at prices from one-half to one-third the current quotations was considered as highly significant. Whether or not these prices are to prevail will not be known until the importers issue their official circulars.

No textile manufacturer accepts for a moment Ambassador von Bernstorff's explanation that it was because the Imperial German Government had seen "that this blockade by England has resulted in serious embarrassment to those American industries which are in need of dyestuffs," and had therefore made "the single exception" to her policy already enunciated. It goes without the saying that the building up a great American industry would result in a tariff on dyestuffs, and that Germany is very anxious to prevent this if possible."

AWAY WITH PETTY JEALOUSY AND MISREPRESENTATION.

THE Birmingham Ledger, under the heading of "In a Little Plot Against Birmingham," makes the following statement:

Taking as evidence action by its Chamber of Commerce and newspaper, Evansville, Ind., is making a fight as the location for the proposed Government armor-plate plant. But that is not all. It is openly boasted by the Evansville civic chamber and newspaper that that city has obtained the co-operation of Atlanta, whose leading business men agreed to throw their influence and work for Evansville, against Birmingham, in return for aid from Evansville in sending conventions to Atlanta.

According to the story, a representative of the Evansville Chamber of Commerce visited Atlanta and made the plea that city had no chance to land the armor-plate plant if it entered the race with Birmingham, because the two cities were too close together, and that the sensible thing for Atlanta to do was to work for Evansville under an agreement as referred to above. It is further stated that leading business men of Atlanta agreed to this co-operative proposition.

It did not seem possible to the MANUFACTURERS RECORD that any reputable business organization in Atlanta or any leading business people could be so petty and narrow-minded as to work against Birmingham and in favor of a Western city, as here indicated by the Ledger, hence a telegram was sent to the President of the Atlanta Chamber of Commerce repeating the substance of the Ledger's charge, expressing the view of the MANUFACTURERS RECORD that Atlanta was not built on such narrow lines, and asking at the same time for the views of the Chamber of Commerce on the subject.

In reply, Mr. V. H. Kriegshaber, President of the Atlanta Chamber of Commerce, wires as follows:

Your telegram received. The matter has never been brought before the Atlanta Chamber of Commerce officially or otherwise. The statement of the Ledger is incorrect. Of course, if Birmingham or any other Southern city is making an effort to secure the location of a Government armor plant, and by reason of location and supply of raw material, etc., would be qualified for the site of an armor plant, we would use every effort to secure a Southern location.

This is merely in keeping with what might have been expected by anyone who understands Atlanta and the people of that city. Naturally Atlanta people are enthusiastic advocates of Atlanta. They are constantly striving to upbuild Atlanta, but they are not narrow-minded, not provincial, not jealous of other Southern cities. It seems hardly conceivable that a daily paper such as the Ledger, so near to Atlanta, would publish the lengthy editorial, from which we have taken a brief extract, charging that city with uniting with a Western city against Birmingham in the selection of an armor plant.

These petty expressions of antagonism as occasionally voiced in some Southern papers are exceedingly injurious to the whole South. This section should be united for development. It should realize that "in union there is strength" and heartily co-operate for

general advancement. Every evidence of jealousy or unwillingness to co-operate is only an evidence of smallness. Birmingham is too big for any of its papers to be guilty of the spirit shown in the Ledger. Atlanta is too big for anyone to have conceived that its business men or any organized body in the city would work against any part of the South.

CO-ORDINATED INDUSTRIAL AND RAIL-ROAD DEVELOPMENT NEEDED TO INSURE NATIONAL EFFICIENCY IN PEACE AND IN WAR.

HOWARD E. COFFIN, Chairman of the Committee of Industrial Preparedness of the Naval Consulting Board, is known far and wide as a man of great business ability. He is one of the leading manufacturers of the country, employing many thousands of hands and having business interests throughout the land. What Mr. Coffin says on industrial matters is therefore of national interest. In the World's Work for May he broadly discusses the organization of industrial interests for national defense, without which preparation, he very properly says, modern armies and navies cannot fight.

The relation of the industrial activities of a country to war conditions have been completely changed since the beginning of Europe's war. The rounding out of industrial life has now come to be absolutely essential to the rounding out of national prosperity in time of peace, and, in time of war, to national safety. All our preconceived notions of war have had to be changed. Mr. Coffin says:

We had an idea that an army and a navy meant preparedness. We had an idea that the army and the navy would take the brunt of any attack upon this country; that the battles should be fought and the naval engagements should take place, and that the winner would be master of the field. Now, in Europe today everyone knows that it is not any more a question of a navy nor the question of any particular army. The test has gotten down to which country can fastest and longest supply the munitions of war to the men on the fighting line. It has gotten down to the question of what country can fastest and in the greatest quantity supply shells to the guns, and it has gotten down not to the point of professional fighting men, but to the question of whether every man, woman and child of the nation has been engaged and is engaged in the production of some kind of materials for the armies at the front. It has even gotten to the point where the women of the leisure classes are going into the mills and factories at Saturday noon and working in seven-hour shifts until midnight Sunday, in order that the mills may not be closed down during the time that organized labor stops work for its period of rest.

"The old cry of labor," says Mr. Coffin, "that it was obliged to fight the wars into which the governments might plunge the country has been pretty thoroughly exploded, and the wars are being fought by the bankers and the statesmen and the artists and the tradesmen, etc., while the skilled mechanic is being kept at home and guarded most carefully by the European governments, because they realize that in the preservation of their skilled mechanics they have the answer to the question of whether or not they will win or lose the war. It is the skilled mechanic of the future who is going to win the wars of this country, because he is the man who is going to produce those munitions in such quantities as will be used by the fighting line, whereas the banker, if you like, and the lawyer is merely a man who carries a gun at the front—as they put it abroad, is cannon fodder."

Out of a study of this kind the Committee on Industrial Preparedness of the Naval Consulting Board has undertaken to organize the engineers of the country in this service. At the committee's suggestion, President Wilson wrote a letter to the president of the five national technical organizations of the country, which are the Mining Engineers, the Civil Engineers, the Mechanical Engineers, the Electrical Engineers and the Chemical Engineers, asking them to co-operate with the Naval Consulting Board in the initiation of this work. Out of this plan has come the organization of a Board of Directors of five men in every State of the Union, and under them they have 30,000 of the most highly trained engineers of the country. Out of about 240 or 250 men nominated for this work by these societies, Mr. Coffin reports that he understands that there have been only two failures to respond in the affirmative,

one due to death and the other due to some insurmountable obstacle. The engineers are entering the work in the most serious frame of mind. Under the direction of the Naval Consulting Board the committee is having prepared forms for the collection of the data on the industries of the country. There are about 30,000 manufacturing concerns in which in the first instance this committee is interested. It desires to make of these concerns a business inventory embodying knowledge such as every business man would want to have concerning any company with which he expected to do business.

In the warring nations of Europe, according to Mr. Coffin, from 80 to 90 per cent. of the total manufacturing and producing resources are engaged in the production of material for the armies and navies, but principally for the fighting lines of the armies. In discussing our general lack of knowledge of the necessity of the work which this committee is doing, Mr. Coffin says:

I wonder if many people have any real conception of the intricate problem of the thing about which I am writing. I doubt if anyone can have who has never been actively interested in the quantity manufacture of materials. Perhaps one or two little instances will make the difficulties clearer.

There are three concerns in this country today that make practically all the gauges and inspection tools for this country and ship much of that same material to Europe. Those concerns are all in New England—incidentally two are in seacoast cities. They have gotten together and have compiled certain figures more or less for their own information. Those figures show that to produce 300,000 shells a day in this country of the sizes required by the army and navy would require an equipment in measuring tools and gauges and inspection gauges alone of from 17,000,000 to 20,000,000 tools, and it would take the combined capacity of their plants five years to produce them; and the lack of these tools is one of the main reasons today why American manufacturers are unable to fill orders from Europe. Not long ago testimony concerning rifle manufacture to the following effect was given in Washington:

"It has taken substantially a year for American manufacturers, with every incentive and under the most favorable circumstances, to manufacture their first rifle for European use. In the manufacture of this rifle 120 separate and distinct operations are required in order to finish the receiver alone. The receiver is that part of the rifle which contains the bolt and firing mechanism. In other words, 120 gauges of the utmost accuracy must be prepared before this essential part of the rifle can be made. So with the gauges for various other parts in order to manufacture the rifle in quantities. After one complete set is made, additional sets can be made somewhat more rapidly and cheaply, but each must be made independently and separately."

And in this connection here are some figures which have been compiled as to the life of the gauging mechanism. These gauges, after they are once completed, are to be used only for from 8000 to 10,000 gaugings and then scrapped. The surfaces become so abraded that the gauge is no longer sufficiently accurate for the work, and new gauges must be substituted.

In the manufacture of munitions themselves I do not know what the average time has been that has been taken in beginning production on foreign orders by concerns in this country. There have been quantity producers of various kinds of machinery and tools, but there are many of the best concerns in the United States that have been taking a year on the problem and have not yet produced and delivered enough stuff that has passed inspection to be worth while. One of the representatives of the English Government told me not long ago that "if the Allies were whipped in the present war in Europe it would be because the United States had not made specified deliveries of rifles for which we have orders in this country."

We hear a good many statements here about our munitions production. The British, however, point out that although we have concerns in this country which have gone on for fifty years in the manufacture of firearms, anything that those concerns have done after a year and a half of effort upon orders which were placed with them has been practically negligible. And this naturally leads one to wonder if all this munitions work which has come to this country is merely a ripple around the edge of the pool, and if we cannot take care of a ripple in any better shape than we are taking care of it, what, in Heaven's name, would we do if we were one of the principals engaged?

In the closing paragraph of Mr. Coffin's article which we have quoted he illustrates the whole situation. Some feeble-minded people who have no more conception of the intricacies and difficulties of manufacturing than has Mr. Bryan have imagined that over night a million men could be called to arms and equipped to meet an invader. Mr. Coffin's illuminating story ought to open the eyes of these people and cause them to think, if the capacity to think is not lacking.

Elsewhere in this issue we publish a list of the nominations made by the various technical societies to co-operate in this work.

THE BETHLEHEM COMPANY'S FIGHT AGAINST A GOVERNMENT ARMOR PLANT.

THE Bethlehem Company continues to send out its letters to the public as to reasons why the Government should not build an armor-plate plant, but it makes no reply to the question that has been raised as to what would become of the armor-plate industry if the supply of Lake ores (upon which this industry depends) was suddenly cut off by the blocking of the Soo Canal or the capture by an enemy of the Lake Superior district.

This is the question at issue, and not the cost of armor plate.

It is of comparatively small importance as to whether the Government pays a few dollars more or less for its armor plate than it has heretofore paid, but it is vitally important that this Government should not permit itself to be dependent any longer for armor plate and munition-making upon an area comprising only about two or three per cent. of the land area of the country and dependent wholly upon one source of ore supply which might this moment, or any other moment, be instantaneously shut off.

The Bethlehem Company makes no answer to this question. It attempts to ignore it; but if Congress ignores it, it will be guilty of a piece of criminal folly which ought to doom to banishment forever from our legislative halls every member who does not at this time fight and work in favor of the building of at least a few munition-making plants and an armor plant somewhere in the central part of the country where raw materials are available, and where there will be freedom from an invading enemy, and freedom from the dependence upon an ore supply the control of which in war might be entirely beyond our power as a nation, as under existing conditions. It matters not so much whether these plants be built in the South, where we believe they should be located, or in the Central West; but they should be far away from the coast and from the Lake region, and should have sources of raw materials which could not be cut off if our ports were blockaded, or the Lake Superior district captured, or the Soo Canal destroyed.

Inconceivably stupid, criminally careless, disregarding the teachings of the present war and of common sense itself, Congress would justly deserve the bitterest condemnation of the country if it yielded to the arguments put forth in the interests of existing plants to continue a condition so unsafe as that at present.

There is no reason why the building of an armor plant by the Government in some central point in the South or Southwest should injure established armor-plate making.

This country will have business enough for its own plant and for existing plants; and **unless armor-plate makers and munition manufacturers are willing to build new and modern plants far removed from the existing centers of these industries, it is absolutely incumbent upon the National Government to do this for the safety of the nation.**

It would be supreme folly for the Government to buy any existing armor plant or munition plant, or to abandon its proposed armor plant, because armor-plate makers are willing to offer lower prices. If they were willing to give without a dollar of cost to the Government all of the armor that it might need for the next five years, it would still be unspeakable folly for this nation to permit existing conditions to continue and leave 98 per cent. of the area of the country without munition or armor making industries or without the equipment for the construction of such plants should Eastern plants be captured or the source of their raw material be cut off."

We regret that the Bethlehem people, in their continued circular letters to the country, are entirely ignoring this situation, and from a purely selfish desire to maintain the making of armor plate and to save, as they say, the \$7,000,000 investment in that industry, are endangering the welfare of the nation in time of war, and thus endangering every dollar of investment that their stockholders have in all of the Bethlehem plants. The Bethlehem people ought to be broader and bigger than this. They ought to have

a larger vision of the needs of the country and a greater willingness to unite with the nation for rounding out our National Preparedness by rounding out national industries and munition-making activities. The more statements the Bethlehem people put out on this subject, the more harm they do themselves and other armor makers; for the more the question is studied the more deeply will the nation become impressed with the mistake of permitting existing conditions to continue any longer.

THE NATION HAS BUILT ON THE SHIFTING SAND.

HON. MORRIS SHEPHERD, United States Senator, in a letter, says:

Kindly note the enclosed article by the Hon. Stuart R. Smith of Texas regarding the advisability of locating a Government armor plant in his section near the Atlantic coast.

Inasmuch as the MANUFACTURERS RECORD has taken the lead in urging the utilization of iron ore in the South along this line, it occurred to me that perhaps you might want to publish the enclosed article.

The statement of Mr. Stuart R. Smith, which Mr. Shephard encloses, is as follows:

The best thought on preparedness seems to be uniting on the proposition that the safeguarding of the iron ore of the country and its means of transportation and manufacture against interference in any crisis is the first vital thing. One of the most serious realizations with which we have been brought face to face by the self-examination forced on us by the shock of the European conflict is that approximately 90 per cent. of the iron ore of the country, the fundamental basis of all armament, depends on water transportation over the Great Lakes, and is so located as to be most sensitive to invasion, blockade and the paralysis of commerce which follows even where the mailed fist does not actually strike. Practically all munition manufacture is confined to a restricted area on the Atlantic seaboard. We are becoming conscious that these vital resources and activities should be distributed more evenly over the country; that we should put more bulkheads in our ship so that the springing of one leak will not sink the vessel.

Besides, it is becoming patent that the industrial health of steel and business generally demands a distribution and balancing of iron production and manufacture in consonance with the deposits as they are distributed by nature through the country. One of the greatest industrial periodicals in this country, the MANUFACTURERS RECORD of Baltimore, has been urging on the larger steel companies for months that they expend in their own interests, and for their own business befoof, a hundred million dollars in developing the manufacture of iron in the South and in the Southwest.

Texas has the largest amount of closely concentrated, independently owned iron ore, lying in Morris, Cass and Marion counties, near enough to tidewater to be available for an armor-plate plant, found in the United States. The Government plant can be located near its coast within easy haul from the ore fields at an inland harbor, secure from the menaces of the sea and yet within fifty miles of the open Gulf and upon an inland canal, which, with its connections, ramifies a great producing interior, reaching all the material required for the operation of the plant.

The Government surveys show a vast quantity of this ore, and recent surveys by accredited experts estimate the amount in sight at one hundred million tons. The striking thing about it is its quality. The recent United States Government survey, issued October 23, 1915, shows that the ore contains from 54.6 to 60 per cent. metallic iron. Most of the ore fields, and especially where the greater operations are now located, show usually not more than 48 per cent. metallic content. It is stated in this official survey mentioned that on account of conditions of the Texas deposit it can be mined and loaded at from 85 cents to \$1 per ton. It is shown that this ore can be manufactured at Beaumont, allowing the cost of coke which may be moved cheaply through the inland waterways canal and delivered at competing points, for about \$3 per ton less than the Northern and Eastern ores and for as little as the Alabama ores.

I suppose general conditions are similar at other Texas coast points, but I mention Beaumont because I know specifically of its advantages. For one thing the city builders there have just invested \$100,000 in cash and provided a site to build a steel mill, organizing with a capital of two and a half millions, that will afford supply for an armor-plate plant if the Government should not wish to own the ore in place. By the way, the owners of the Texas ore fields have, I understand, in an authoritative way, offered the ore land to the Government, the price to be fixed by a board of appraisal. If the Government should desire to co-ordinate an armor plant with a shipbuilding yard of its own, there is no better or safer place than the one I have named for the two plants. We have a secure inland harbor, iron, timber and fuel. When the Government figured on providing its own fuel oil, it came to our town for one of its principal investigations. A large portion of the oils of Texas, Louisiana and Oklahoma are piped to Beaumont and vicinity, where the principal refining of oil in the South is done. We have cheap rates, a navigable outlet to the sea for

seagoing craft, and an inlet through the inland waterways canal and Mississippi River and its ramifications to the interior of the country, the use of which would not be disturbed by activities on the coast or at sea.

By locating and operating an armor plant in that section the Government will achieve an economy not only in the cost of the plate per ton, but it will secure its iron supply against molestation in time of war, and it will give impetus to perhaps the larger achievement of distributing and better balancing the great industry that lies so near the base of our economic life in the times of peace as well as in war.

The MANUFACTURERS RECORD does not undertake to suggest in what city or what State armor plate and kindred industries should be built by the Government. It believes that the best experts in the Government service, in co-operation, if necessary, with the highest technical experts in private life, should decide on the location or locations of these plants, and we will be content whether they are built in the Central South or Southwest or in the Central West, provided they are safeguarded by being free from dependence upon Lake Superior ores and are so located as to give the largest assurance to the nation of freedom from attack by an invading army.

This question is too broad and too vital to the nation to be discussed from the standpoint of the benefit of any individual community. It is well for all communities having advantages for such industries to vigorously and aggressively, but without hostility to other communities, present these advantages to Congress. But the whole subject should be handled from that of national welfare and not of sectional or community development.

Mr. Smith makes the interesting statement that the owners of Texas ore fields have offered them to the Government, the price to be fixed by a board of appraisal. The MANUFACTURERS RECORD recently suggested that owners of Southern ore properties would doubtless be willing to do this very thing and leave the price entirely to arbitration or appraisal by competent people. We do not believe that there is any desire in the South to hamper or to gouge the Government in this matter. It is well that the subject should be discussed from every standpoint and the advantages of every locality be presented in order that the nation at large may be fully aroused to the dangers of the present situation, which permits our iron and steel and armor and munition plants to be based on a foundation which in time of war would be as unsafe as the shifting sand.

He who builds his house on the sand is no more unwise than is the nation (or the business men of the nation) which builds its industrial interests and preparedness potentialities on the unsafe and uncertain foundation upon which those of this country now rest.

THE PAPER SHORTAGE AND THE NEED TO MEET IT.

W. J. EDGEcombe, Secretary of the Retail Merchants' Association of Texas, in a letter to the MANUFACTURERS RECORD, suggests that as the country is facing a shortage of raw material for the making of paper, the subject of using cotton stalks for papermaking is an important one.

It has been demonstrated that cotton stalks can be used for the manufacture of paper, but so long as paper was produced from wood pulp at prices prevailing in recent years cotton stalks for paper material seemed to be unprofitable. The increasing scarcity of paper and the prevalent high prices, which are seriously affecting all the newspapers of the country, suggest the wisdom on the part of chemists and paper manufacturers of hunting out other sources of raw material for the paper industry than those we have heretofore been using. Out of this acute situation there must be found new ways of making paper and of producing it at a lower cost, otherwise a very large proportion of the publication business of the country will become so unprofitable as to prove a national disaster.

The price of paper has advanced to such a figure that many papers throughout the land are already suffering severely. Many others will find every dollar of profit wiped out by the advancing cost of their white paper; and many, unless lower prices can be had, will be forced to suspend publication.

Under these conditions—which are far more acute

than the public has generally appreciated, because the newspapers have been saying little about their own business—it is important that every possible source of papermaking should be investigated. The Government has appealed to the people of the country to save waste rags and waste paper in order that a larger supply of raw material may be found. The newspapers are giving freely of their space to the discussion of ways and means to benefit the business interests of other people; they are seeking to bring about conditions helpful to the development of the dye industry, so essential to the welfare of the textile business; they have been seeking to find ways to reduce the cost of gasoline, although to most of them gasoline is not an essentially important factor. Freely and fully they have given their time and space to advocating everything which they thought might benefit other interests, but they have said little about the great advance in the price of paper and the acuteness in this industry which far exceeds the much-discussed question of gasoline.

A campaign should be waged from one end of the country to the other to save waste paper. Useless books—and there are millions of them piled in garrets and on library shelves—could well go back into the papermakers' vats in order to increase the supply and lessen the present cost.

There is enough old paper material in books stored up in this land, absolutely useless to anyone, to greatly increase the supply of papermaking material. Millions of these worthless books could thus be utilized to better advantage than in any other possible way.

Let the country begin a campaign of gathering and selling to the paper-stock people all useless books and accumulations of paper and of waste rags, and let the chemists of the country enter upon a campaign of investigation as to papermaking as vigorous and active as that in the dye and other industries which are claiming the attention of experts; and then we will be surprised to find how vast a quantity of material now useless can again be made valuable, to the benefit of the publishers of the country and thus of the nation itself.

Under existing conditions the shortage in paper is really one of the most alarming situations in the trade of the country. But because this relates to their own business the newspapers have had comparatively little to say about it.

ANNISTON ELECTRIC FURNACE TO BE ENLARGED.

MR. JAMES MITCHELL, president of the Alabama Power Company, who was responsible for the organization of the Anniston Ordnance Co. at Anniston, which is now building an electric furnace at that point, wires the MANUFACTURERS RECORD as follows:

"Second electric furnace at Anniston to be of six tons daily capacity, twenty-four tons."

This is the first official announcement that the Anniston electric steelmaking plant is to be enlarged. It is one more interesting illustration of the progress of diversified industries now going on in the South.

National Defense Conference at Charleston.

Arrangements have been made for holding a Southern National Defense Conference in Charleston, S. C., on April 28 and 29. It will be under the joint auspices of the Charleston Chamber of Commerce and the National Security League. Among the speakers will be Alexander Graham Bell of Washington, D. C.; Henry Breckinridge former Assistant Secretary of War; Frederick L. Huidekoper, author of "The Military Unpreparedness of the United States"; S. Stanwood Menken, president of the National Security League; Representative Thomas W. Miller of Delaware; Col. O. J. Bond, superintendent of the Military College from South Carolina, and J. Bernard Walker, editor of *Scientific American*.

Invitations have been extended to the Governors of Southern States and Mayors of leading Southern cities, and it is anticipated that the attendance will be a large and representative one.

Investment Capital for Southern Enterprises

[Special Correspondence Manufacturers Record.]

New York, April 24.

While negotiations for many loans to foreign countries are now progressing and many millions will certainly be thus placed, reawakened interest is being displayed toward good opportunities in the Southern States. The remarkable earnings which are being shown by so many Southern companies since the beginning of the war, and the various ways opened to the section for taking profitable part in world trade, have been the subject of keen review in Wall Street. If the exports from the United States in the current year place a trade balance in our favor of \$2,000,000,000 or more, as now seems likely, the trend of loanable capital toward domestic enterprises will become even more pronounced. And this being so, the opinion obtains that the South, presenting the opportunities should reflect the results if its people are wise in making the most of the opportunity.

Some recent investments in the South by William Morris Imbrie & Co. are indicative of the trend in this direction, and what they are doing should be followed by J. P. Morgan & Co., the National City Bank interests and many other leading houses.

Despite the handicaps of the current period, wherein the eager competition of foreign nations for American capital has made more difficult the task of supplying the South with adequate funds, Imbrie & Co. and their associates in development work have lately put a good many millions of dollars into Southern development. And there is every prospect that this is to continue. The current prosperity of the South, the certainty of good returns on wise investments managed competently, are leadstones inducing some conservative capitalists to ignore the green fields in the distance for investment nearer home.

In the view of a leader who has been instrumental in placing half a hundred million of dollars in the Southern field since the outbreak of the European war, the last three years have taught the South many useful lessons.

Diversification and rotation of crops, which have been so generally adopted throughout the South within the last two years, have been greater factors in creating favorable sentiment in New York towards Southern investments than the South generally understands or appreciates.

Georgia, Alabama, West Virginia and North Carolina have been the investment sections which have most directly appealed to the large number of investors in Southern properties or securities, comprising the clientele of Imbrie & Co.

At the moment the course of the Atlantic Steel Co. of Atlanta, Ga., is highly gratifying to these interests, which financed the recent extensions and improvements.

Since November last the productive capacity of the company, which is the successor of the Atlanta Steel Co., has been increased nearly 50 per cent., and the entire output on the larger basis has been sold for virtually the entire year at prices ranging from \$10 to \$16 per ton more than prices received during the early part of 1915.

Its chief products of reinforcing steel, wire hoops, cotton ties, railroad spikes, merchant bar, nails, barbed wire and field fence, now approximating over 100,000 tons a year, are sold chiefly in Georgia, Tennessee, Alabama, Florida, North Carolina and South Carolina.

Under recent large contracts secured through J. P. Morgan & Co., a large amount of the company's output of barbed wire is going to Europe for use by the armies of the Allies.

The gross earnings of the company from operations for the first quarter of the calendar year, January, February and March, were \$155,082, while the reserves for interest and replacement required \$33,000, leaving the net balance of \$122,083.

For the year ending December, 1915, the net earnings were \$250,000. Net earnings for January of this year were \$59,749, and President Thos. K. Glenn says that

the estimate of \$400,000 net for the present calendar year is a very conservative one.

Mr. James Imbrie, chairman of the board of directors of the Savannah Northwestern Railroad, which is rushing completion of the new construction necessary to connect that road with the Georgia Central, views optimistically the future of the road and is notably hopeful of the outlook for the revival of the lumber industry of the section.

Mr. Imbrie, who is also a director of the Savannah Sugar Refining Corporation, which is being financed by Imbrie & Co., is sanguine that the construction of the company's \$3,000,000 refinery at Savannah, scheduled for completion in November, will be finished on time. It is planned now to put the refinery in operation by December 1.

Westinghouse, Church, Kerr & Co., who are in charge of construction, have completed their plans and expect to turn over the new plant on time. The refinery will have a capacity of 150,000 short tons of sugar a year, and its product will be distributed throughout the southeastern part of the United States, heretofore served by the refineries at New Orleans and Philadelphia.

New Hotels Proposed at Knoxville.

Knoxville, Tenn., April 22.—[Special.]—By the complete destruction by fire of the Hotel Imperial a few weeks ago an exceptional opening was made for a large, modern, fireproof hotel. This opportunity has been quickly appreciated, and two groups of financial interests have the matter under consideration.

The ground formerly occupied by the Hotel Imperial has been bought by John E. Oberne, president and treasurer of the Southern Extract Co., and Samuel V. Minckey, secretary of the same company, who bought the property as an investment, but they are now gathering information about hotel conditions and operations. It is understood that they are in position to finance the proposition at once should they decide to build a hotel.

A charter has been secured by the Knoxville Hotel Co. and the following officers elected: S. B. Luttrell, head of S. B. Luttrell & Co. and president Mechanics' Bank & Trust Co., president; Curtis B. Johnson, president Curtis B. Johnson Publishing Co. (Daily Sentinel), vice-president; Howard Cornick, attorney, secretary-treasurer. All of the above and the following are directors: W. S. Shields, president City National Bank; Hugh M. Johnston, president Union National Bank, and George E. Helm, president King Mantel & Furniture Co. This company has been negotiating with J. B. Pound, well-known Southern hotel promoter and operator, with reference to operating the hotel which it is their expressed purpose to build on lot on Gay street one block from the Imperial site. This company announces that it is proceeding with financing plans.

Going Back to Flint and Steel.

Consul-General Thomas Sammons, Shanghai, China, reports that on account of the steady increase in the price of matches, flint rocks and steel are being sold in large quantities at Soochow, in the Shanghai consular district. A large number of shops are now selling these substitutes for matches, and many peddlers are also making a living disposing of these articles in and about the district. This business has become so successful that some of the Chinese retail dealers believe that in due course flint and steel may ultimately supersede matches, particularly so long as most of the products of this kind are imported from abroad.

The imports of matches into China decreased from \$4,700,000 in 1913 to \$3,300,000 in 1914, Japan furnishing approximately 75 per cent. of this supply.

The National Association of Cotton Manufacturers

A GREAT ADDRESS ON DEMOCRACY AND IDEALS BY PRESIDENT DUNCAN.

[At the annual meeting at Boston on April 26 and 27 of the National Association of Cotton Manufacturers, President Albert Greene Duncan in his address broadly discussed the relation of our country to world affairs, and pointed out the dangers of our unpreparedness condition for war or for peace. His speech is an illuminating discussion of the subject. It deserves the careful reading of intelligent men everywhere.

As a nation we have not at all grasped the change that has taken place in the world during the last twenty months, nor have we in any way as individuals, except here and there, appreciated the mighty revolution in all human affairs that has come about since the German army invaded Belgium.

The ostrich burying its head in the sand is not near so foolish as we have been in enwrapping ourselves with self-complacency, with a belief in our ability to meet any situation, and as some have expressed it, "to whip the world," and in shutting our eyes to all the changes that have been wrought since the momentous struggle in Europe began.

President Duncan calls the nation to a new study of democracy and of ideals as against wealth-getting and indifference to world questions.

Responsibilities greater than any man on earth could have dreamed of two years ago rest upon us, but we do not seem to realize this fact, nor to appreciate their meaning to us as individuals, or as a nation, as we face these new and mighty questions.

It is well that leading business men, through their organizations, should broadly discuss the whole situation; but nowhere have we seen a clearer and more comprehensive survey of these questions than in the address of President Duncan, which we give in full, with brief extracts from a few other addresses made at the meeting.—Editor Manufacturers Record.]

Address of PRESIDENT ALBERT GREENE DUNCAN.

At the time of our meeting two years ago—in April, 1914—no one would have ventured to predict that a catastrophe was overhanging the world. Humanitarian, economic and financial considerations would then have been advanced, showing that a world war was impossible. The outbreak in the Balkans seemingly settled, the nations of Europe, after a period of strain and tension, had resumed their normal course of life.

A few short months followed, and prosperous and happy Belgium was a scene of desolation and slaughter. France, startled from her thrifty pursuit of industry and commerce, became a prey to terror and almost disaster. Russia's vast population and most stupendous national resources formed no defense from an invader who drove her back from her borders amid the ruin and destruction of her fairest provinces. England, supposedly secure in her isolation, seeing her dominance of the seas and her colonial empire threatened, was forced to take a leading part in a contest she could not avert.

Lack of adequate preparation for emergencies, far from keeping these nations out of a struggle into which many of them were loath to enter, made early results most disastrous. As a sequence of this world war we have seen the blasting of Serbia and Montenegro, the murder of hundreds of thousands of Armenians and the blotting out of Galicia and East Prussia, with terrific sufferings to civilian populations who had no part or in many cases no knowledge of the struggle.

How foolish, in view of these awful events, is the self-sufficient attitude of America. The early days of the war threatened the breaking down of our financial structure. Curtailment of our trade followed, caused by the withdrawal of foreign vessels whose place our insignificant merchant marine could not supply. We suffered a personal loss, as well as our dignity as a nation, by the murder of our fellow-citizens on the Lusitania. As the grip of the warring nations upon each other has become more tenacious we are feeling the restrictions of our shipments to neutral nations and our utter inability to secure many raw materials and products needed by our manufacturers. Yet at this day, nearly two years after the outbreak of the war, we are still discussing academically the question of the possibility of our being involved, the extent of our needed preparedness, or even the necessity of any preparation at all.

To anyone who will calmly view the history of the past two years the plain lesson is evident that civilization is but a thin veneer over the inherent savagery of mankind; that neutral rights or the rights of civilians have but little weight when national policies are at stake, whether these policies be for aggrandizement or self-preservation. To the citizens of this country it should be clear that a nation that intends to preserve its national life and national ideals inviolate must make adequate preparation for its own defense against any emergency, no matter how unexpected, or against any attack, no matter how unjust and at variance with every policy it has hitherto professed.

This lesson is particularly pertinent to America at the present time, for both our business and foreign

policies inevitably tend to make us enemies rather than friends among the nations of the world. Our foreign commerce is openly seeking to capture neutral markets from those who formerly held them and are prevented from trade owing to exigencies of war. Our necessary policy of neutrality is bound to be misunderstood, and to antagonize both parties in the struggle. Further than all, by our prosperity, in that we seem to profit from the misfortunes of other nations, we invite envy, the cupidity and the hatred of all.

This is not the time to discuss in detail the question of preparedness. In principle it would seem as if all Americans should agree upon the necessity of national defense, but, complicated as this policy is by questions affecting the various parts of our country in a different way, it seems desirable to avoid the details of preparedness and discuss the fundamental ideas which must lie behind any national policy, whether of defense or of any other problem affecting our national life.

A strong national spirit, inspired by a love of country and animated by the ideals that have made our country what it is, must develop a broad outlook with which national problems must be faced. Vaporings of patriotism, jingo enthusiasm, pointing to our vast national resources and the willingness of millions of Americans to spring to their country's defense, calling attention in loud tones to our ability in the past to respond admirably to every national need, will not suffice. A calm, sober realization of what our country means to us is needed. A decision as to the lengths we are individually prepared to go, in deed as well as in word, is demanded if we would make our country the greatest, the readiest and the sanest country amid the warlike extravagances dominating the rest of the world.

What does America stand for? We believe it unique among the nations of the earth. It was founded on liberty, dedicated to the rights of man and pledged to the principles of humanity. Read the Preamble of our Constitution, the Farewell Address of Washington and the Gettysburg Speech of Lincoln—three great documents that embody our national ideal. What has America done to justify these expressions, and in what degree has accomplishment squared to the hopes of our founders?

We were the first nation in the world to develop universal education as a training for manhood suffrage. Coincident with the settlement of our vast area came the planting of the school and the college for the training of our citizens. We have, in general, abandoned all questions of property qualifications, and have based the right of citizenship only on allegiance to our country and an understanding of the principles of our Government.

We have ever held to the doctrine of the greatest good to the greatest number consistent with the rights of all, and in spite of demagogues' vaporings on special privilege, one who follows the tendencies of legislation in this country must see as its underlying motive the uplifting and improvement of the average man. We have built new communities of self-governing citizens, trusting to them the regulation of their local affairs, with only the limitation that their laws and court decisions should conform to the Constitution of our com-

mon country. We have done this while opening our doors to the immigration of the world, and have not feared the issue.

We have not selfishly held our territory to ourselves, but trusted to the ideals of the Republic to mold the newcomers of every race and nation into real American citizens. In spite of all that has been said in the last few months against the attitude of certain hyphenated Americans, we have but to point to whole communities which, in recent times, as periods run in the life of a nation, have been settled largely by races and peoples entirely alien to our own, but who, by the influence of the common school and the inspiration which a free national life has given, have become as loyal Americans as any who can trace descent from the founders of our country.

By the blood and suffering of the great Civil War the question of our nation being an indivisible union rather than a loose confederacy of States, was settled forever, and our welding together as citizens of a common nation marked the beginning of the era of greatest prosperity to all sections in development of resources and growth of population.

As a united nation we undertook, for humanity's sake alone, the rescuing of Cuba from plunder and spoliation, without any thought of material benefit or territorial aggrandizement, and when, in the course of our struggle with Spain, the Philippine Islands were thrown as helpless wards upon our hands, we extended to them, as to the islands of the Pacific, our ideals of education, self-government and liberty, and from us these peoples have experienced the only real peace and security they have ever known.

America is founded upon ideals and has lived because of them. It stands for something more than the material prosperity of its citizens. Its success as a nation is measured by something else than the yield of its factories, its mines and its acres or the per capita wealth of its inhabitants. Its national ideal cannot be expressed by columns of figures. America stands for something higher than cotton or iron or international trade. The people of this country achieved liberty before they acquired wealth; they established justice and the rule of law because they believed these to be the foundation of good government and not mere expressions of expediency.

As citizens of the first and the greatest Republic in the world, we do not realize our unique position. We do not fully appreciate that citizenship carries with it a higher degree of personal responsibility in a Republic than in any nation under any other form of government. The success or failure of a Republic depends upon the individual citizens, for with an ever-changing personnel in government no continuity of policy is possible unless demanded by the electorate.

The chief peril of democracy is its unadaptability for unified thought, and far less for unified action. The public often think they see the truth and act from sincere conviction, but many times without knowledge or understanding of fundamental facts. It is therefore essential that the ideals of our Republic be kept alive by every citizen as a rallying-point for national unity and action, for it is only by the inspiration of a national

ideal that the divergent forces in a Republic can be focussed for the common good.

As the panorama of the world's history passes before our eyes we see that it has not been wealth, nor commerce, nor learning, nor military power, nor any of the other attributes which could be particularly applied to any of the great nations of the earth, past or present, that has kept them strong. Trade routes and material advantages may have helped these nations at their origin, but the reason for their continued predominance and success has been their adherence to a strong and worthy national ideal, and when this has gone, decay and disintegration have followed with rapid strides.

A Republic having no trappings of sovereignty must hold high principle alone as the rallying-point for a strong national spirit. We are not an empire or a kingdom, and cannot draw from an hereditary monarchy inspiration that really flows from national spirit. The constitutional monarchy of England, whose citizens are as free as our own, have in the person of their king the embodiment of their national ideal and of their history, which leads the mind of each citizen back even to medieval times, and in giving allegiance to the office of kingship, not to the person alone who fills the throne, their thoughts unconsciously crystallize on all that their nation has stood for during the centuries of its history. The citizens of Russia in revering their Czar do not regard him as a personality, but as the "Little Father" of his people, and the embodiment not only of their national existence, but as the head of their organized religious belief. Germany, not a nation before 1870, welded by the personality of a Bismarck which unified many discordant States of differing race and religion, has become a fatherland to a people who see in the empire the embodiment of the national ideal. France, though a republic, is the successor to an empire and a kingdom, and has drawn into her present form of government much of the inspiration and unifying force with which she followed the imperial eagles over Europe.

No better example of this national spirit can be given than by an incident at the close of the Franco-Prussian War, when France saw herself with a large part of her territory held by an invader, her Emperor a captive, her capital in the hands of the Commune, and her whole system of government broken. Marshal Bazaine, the commander of the fortress of Metz, surrendered without adequate resistance, and on the restoration of a stable government was court-martialed to answer to the manner in which he had fulfilled his trust. He pleaded that a large part of the army had been routed and captured; that there was no settled form of government to whom he could appeal for instructions, and he therefore felt that any resistance was unnecessary. As he said, "There was nothing left." The answer of the presiding judge will live in history as an example of how a national ideal can triumph over any catastrophe, however severe. Addressing the accused commander, he said, "But was there not France?" His question was never answered.

A republic whose citizens lose the conception of the nation as an entity and the embodiment of the high ideals and principles for which it stands will soon sink to a point where expediency will replace national honor. Expediency excites no inspiration and is not a principle on which a nation can live. Expediency dictates the theories of peace at any price. Expediency demands commercial instead of spiritual welfare, and may well cause the breaking up of the very foundations of government itself.

The ideal of a government founded on principle is absolutely at variance to the theory that a State exists solely for the individual, and that the individual has a claim on his State for the protection of his life and property that is not equally balanced by his duty to do his part to keep his nation true to the high principles which were the cause for its foundation, and are the reason for its continued existence. The theory that a government exists merely as an insurer of real estate titles and a protector of material wealth is unutterably opposed to any ideal of nationalism, for such protection could exist with equal security in a vassal State ruled by an alien nation who had no interest but to encourage the taxpaying ability of its inhabitants.

I feel that in the last few years we have failed lamentably in this country to put a strong national feeling as the fundamental basis of our policy of govern-

ment. Too often have sectional and local considerations been given weight as opposed to a national conception. There has been too much legislation for selfish ends and too little national legislation for national needs. Our legislators, who are not alone to blame, as they but represent the sentiment of their constituents, have too often devoted their time and attention to the securing of appropriations for local benefits, to legislation to promote the advantage of one section as opposed to another, rather than to adopting a broad, constructive and national policy which should regard all questions in the light of national concern, and not in the sole interest of any one section of our country or of our population.

While of necessity our citizens, owing to different local environments, naturally must approach almost any national question from a different point of view, and while there must exist in any free form of government political parties with different ideas of how the nation's affairs should be best administered, he is no true American, whether he be citizen or legislator, who puts personal, sectional or party advantage above national welfare and prosperity.

No better illustration can be given of the failure of our citizens or their legislators to regard our nation's welfare as a whole, than the action of our Congress in the last few months. With wars and rumors of wars all around us, with the realization that, after the present struggle, the world will never be the same again, that new alliances will be formed and old ones broken, that the warring nations will of necessity be forced to change their internal economies and their external policies in order to recoup themselves for the enormous expenditures in which they have been involved—with these facts patent to everyone, there has been no definite, consistent policy to put this country in an adequate state of defence for what may happen at any time, or in a condition of industrial preparedness for the trade war bound to ensue at the close of the struggle. These great questions have been considered purely in the light of local self-interest and party advantage, and not in relation to national welfare.

The war has already shown that, in spite of ample natural resources of our own to supply practically every requirement of our industries, we are dependent on foreign nations for a large number of essential products, notably dyestuffs. Yet, in spite of a clear case being made out by our citizens, irrespective of party, our legislators have let petty politics intervene rather than regard the needs of their country first and their party afterwards.

With the necessity of large expenditures for preparedness admitted, no definite financial policy of taxation has been advanced, but an eager search has been made for some new form of revenue which will be least antagonistic to the individual voter, with the intent to minimize the opposition of taxpayers by imposing upon the few the largest part of the burden. In any program of such national import taxation should be borne equally, according to his means, by every citizen, as a part of the responsibility of his citizenship. This clashing of political and personal interest with the interests of the nation as a whole is what is making the admin-

istration of our government inefficient and insecure for its citizens.

The man who thanked God that a naval gun had not yet been invented which would shoot from the Atlantic seaboard to the Mississippi River was certainly not thinking along national lines, nor was the leader of the dominant party in Congress regarding all sections of the country with equal solicitude and showing a national spirit in tariff legislation when he said, "We in the South intend to make the New England mills come down and put their mills there or else go out of business." Such sentiments emphasize the fact that citizens of this country often regard sectionalism, individualism and partisanship above nationalism. Such sentiments are at the root of much of the legislation of which business men in the last few years have had reason to complain. We should go back to our first principles. We should forget our individual, local and partisan prejudices and turn our faces toward the ideal of nationalism, which has been our salvation in our government crisis of the past.

We are in the midst of a crisis today, and possibly one of the most far-reaching in its effect upon our national life we have ever faced. In spite of our momentary prosperity, in spite of our isolation from the struggle which is raging over three-quarters of the rest of the globe, we cannot pursue a lofty policy of indifference and aloofness to the great questions of national and international import which press for settlement. We have been forced, in spite of ourselves, into international relations. To protect our own financial structure we have recently been obliged, for the first time, to engage in international finance, and such chains of commerce, once forged with other nations, cannot easily be broken. We must realize that we can no longer consider our own country as a law unto itself, but with the dawn of peace must engage in the struggle of nations for world trade. We have formed closer bonds with the nations to the south of us, and the Monroe Doctrine has changed from a measure for our own defense into an added responsibility we cannot shirk.

We can never again avoid world politics, if we would, and in entering this broader field of national opportunity we must firmly hold the principles for which America has always stood—of peace, "with charity toward all and malice toward none"; of friendliness to all nations; of insistence upon full protection of American rights; of determination to defend American independence, American territory and American ideals; of the rights of humanity; of the working out of the problems of democratic government in the Western Hemisphere without outside interference.

This is true Americanism in external relations, a creed to inspire and unite our citizens to the highest endeavor. But we cannot exhibit a national spirit in external relations unless we vitalize in internal affairs the doctrine of "Americans All," not sectionalists, not partisans, when the national needs of business, of defence, of revenue, or of any other problems of country-wide import demand settlement. "For the Government," means the whole people, with every citizen a sovereign whose allegiance can be given only to that which is higher than any embodiment of kingship:—A NATIONAL IDEAL.

Reconstruction in Dyeing.*

At the outset it must be stated that the available natural dyestuffs have not been able to and cannot fulfill all the functions that have been fulfilled by a highly developed and diversified coal tar colors industry. There are limits to the uses to which natural dyewoods can be adapted.

Further, it must also be noted that our task has been rendered especially difficult by the fact that the situation had to be faced without the aid of two of the principal natural coloring matters—indigo and madder. Indigo was the standard fast blue of the old dyer, both for wool and cotton, and madder the standard fast red. The madder industry was ruined with the development of the manufacture of its coloring principle, alizarine, by artificial means, so that it has been necessary to look elsewhere for red. While the growers of natural indigo have taken advantage of the present emergency to increase their acreage, the total increase hardly relieves the indigo scarcity in this country, and we may

practically say that it has also been necessary to look elsewhere for blues.

Prior to the war certain forces were at work which prepared for the present reconstruction. The rise of the artificial colors industry contributed very effectively to the momentum of these forces, if indeed it cannot be said to have been the cause of them. The tremendous advance in information attendant on the rise of the artificial dyestuff industry has assisted in the use of natural dyestuffs. The principles and practice developed in the study and the use of artificial dyestuffs apply to natural dyestuffs.

These statements may seem revolutionary. I know full well the prevalence of the idea that the natural and artificial dyestuffs have nothing in common. As a matter of fact, however, the natural and the artificial dyestuffs are of the same general nature and mutually supplement one another. Side by side with those chemical and practical researches which led to the discovery and application of the various basic, acid, cotton, sulphur and other colors, commonly called artificial

*Extracts from paper by Edward S. Chapin at Annual Meeting No. 100, Boston, Mass., April 26 and 27, 1916.

dyestuffs, there have been prosecuted by the same methods equally successful studies into the nature and application of the various dyewoods, and frequently by the same scientists.

The list of heroes of science who have assisted in performing this service contain no less such notable names than Graebe and Liebermann, Bayer, Herzig, Kostanecki, A. G. and W. H. Perkin and Heermann.

Indigo is indigo, whether made by man or by nature. Dioxo anthrachinon (alizarine) is loxy anthrachinon, whether made in the Badische factory or in the root of the madder plant, and methods of dyeing are identical. So, too, with the other natural dyestuffs whose chemical identities and dyeing properties have been established; fustic, logwood, quercitron, etc. These are chemically the same, whether made artificially or naturally, and only the fact that these dyestuffs can be extracted more cheaply from the natural sources than they can be made artificially has stood in the way of their artificial manufacture.

The principles underling the application of artificial dyestuffs chemically similar to logwood, fustic and the various natural dyestuffs apply to the application of these natural dyestuffs.

It cannot be truly said that the study of the application of natural dyestuffs, except where those were made artificially, kept pace with the study of the application of the artificial dyestuffs, except, perhaps, in the past year of necessity. The reason is not difficult to discover. When the artificial dyestuffs began to appear, the natural dyestuffs possessed the field. The artificial dyestuffs had to conquer a market. Accordingly, no expense was spared in the working out of new short methods of dyeing, and in the preparation of a considerable literature, describing in the greatest detail the properties of products and the best methods of their application.

The natural dyestuffs were displaced right and left as a result of this aggressive propagandism. Frequently this displacement occurred in spite of the protests of the dyers of the old school and contrary to sound judgment.

About six years ago this artificial dyestuff propagandism appears to have spent its force. The pendulum had been swung too far, and commenced to come back toward the center. A notable return to the use of the natural dyestuffs was evident in the trade. At the same time a literature on the practical application of natural dyestuffs, embodying the results of scientific and practical researches, began to make its appearance.

These studies and practical trials have embodied the results of most protracted and abstruse physio-chemical researches. Natural dyestuffs are adjective dyestuffs, i. e., they need a mordant for their fixation on fibers. This is illustrated most simply as follows: Boil a woolen skein in a solution of logwood. The wool will be stained brownish, and most of this stain will wash off under a faucet. If now the woolen skein is first boiled in a solution of chrome and is then boiled in a logwood bath, the result is a blue-black dyeing on the fiber which cannot be washed off. Chrome which goes on wool with lightning-like rapidity at the boil has almost no power at all to deposit or dissociate on cotton. The cotton fiber is a most peculiarly inert substance chemically, and accordingly all methods of mordanting it formerly known require many or tedious processes.

Much pioneer work has come to my knowledge that has been done by others in various mills of the country. Processes worked out are essentially private or closely confined to special requirements. Under these conditions such processes cannot be discussed here, although in the aggregate they make a large contribution to the advance in the use of natural dyestuffs. The work which I am about to describe, however, is, I believe, the most generally applicable, and even in this I cannot relate some of the special applications which have been worked out in certain mills at such an expense of time and money that full details would be a breach of confidence and an injury to the pioneer worker. In view of the present unusual situation and the grave needs of the industry and of the country, I give as much detail as possible.

Work has gone along three lines:

First—To enlarge the range of colors obtainable from natural dyewoods, especially to obtain fancy and bright shades.

Second—To use apparatus that had been especially devised for the dyeing of artificial colors.

Third—To obtain results that would stand certain severe manufacturing processes or certain tests or service requirements.

At this point it is in order to speak in passing of a notable addition to the fellowship of the available natural dyestuffs. Last May Dr. Woodbury sent me a clipping from the Boston Transcript about osage orange. At that time this product was not commercially available; today the story is different. This dyewood is of special interest, because the tree grows in our own country. There is but a single species, Maclura aurantiaca, a native of Texas and Oklahoma and adjacent regions. It is a spreading tree with handsome, shining, ovate leaves, from 30 to 60 feet in height and 2 feet or less in diameter. Its wood is hard, strong and flexible, of a satiny texture, the heart wood bright orange turning brown, the sapwood lighter. It was formerly used by Indians for bows; hence called by the French settlers bois d'arc (bow-wood). It bears cutting back, and has formidable thorns, and hence is very extensively used for hedges. The lumber from the wood has proven very valuable in the States in which the trees grow; but, although the waste from these mills is considerable, and it was known that the wood contained dye principles similar to those contained in fustic, its utilization to make commercial dyestuffs was not attempted until the present war and situation gave the proper setting and opportunity. The name selected for the extract from the osage orange is happily botanical—aurantine. This product is now being manufactured and used in large quantities.

A great change came in the mental attitude of the most farsighted leaders in the dyestuff industry when the synthesis of indigo at a commercial figure was perfected. It was seen that the indigo base possessed unique excellence, and presently chemical analogous to indigo came the vat colors.

So with others of the natural dyestuffs which possess unique excellences. Their proper study and development has emphasized their especial place and permanent value in the textile industry. Much has been accomplished in the past year of stress and struggle to bring these excellences and special adaptabilities into high relief, but it will take time to tell the whole story. There needs to be much more theoretical and practical experimenting before the final judgment can be passed on the new developments.

For certain purposes outlined in this paper and in the paper of last year the use of natural dyestuffs may prove temporary. The mills should and would return, if a full supply of artificial colors again becomes available, to the use of artificial colors for many purposes, particularly where the artificial colors can be dyed more simply or give special effects.

The reconstructions of the past year prove conclusively that the natural dyestuffs can and should be used for many purposes, hitherto not dreamed of, with profit to the industry. It is not too much to say that the impartial application of the new principles of dyeing that have been developed during the past year will prove the basis of an even greater construction in the science and in the art of dyeing.

I have confined myself to technical and scientific details and data. In closing, I will comment on the economic phase of the subject which bids fair to outweigh, if it does not overshadow, the technical developments.

I will make three suggestions, and one will not be the oft-iterated advice, "Manufacture all the dyestuffs in this country." The erection of a comprehensive coal-tar colors industry in this country, insuring the country forever against another such calamitous happening as the present, is a thoroughly sound and desirable proposition. You are well aware of the extra protection, which is now lacking, which is needed to tempt capital to initiate this gigantic task, and you appreciate the time that would be involved in construction and development. From this advice, then, can come no real immediate relief. The suggestions I will make answer directly the question how to get the dyestuffs now or soon enough to keep the wheels of industry in motion.

In the first place, we must put ourselves into real sympathy and practical co-operation with the manufacturers of natural dyestuffs. Present demands of the trade, except for perhaps one or two natural dyestuffs, far exceed the production possible from all the manufacturing facilities at present available in this country. The greatest shortage of all is in logwood extract and

hematite. Extensive additions in the past months, and even the opening of new plants, have made comparatively little impression on the situation. The demand is for more and more, and, unlike the demand of the celebrated elephant of De Wolf Hopper's song, there is no comedy in the cry for more natural dyestuffs.

The natural dyestuff manufacturers have increased their facilities to the limits of financial sagacity. To expand further would be an extraordinary gamble, which the textile manufacturers of the country cannot expect from the dyewood manufacturers unless they will themselves participate in the hazard. To ensure the extra supplies of natural dyestuffs that are and will be needed by the mills this co-operation should be crystallized into the form of a definite guarantee to safeguard in part the dyewood manufacturers in the further enlargement of manufacturing facilities. This guarantee could well take the form of contracts of some years' duration.

The continuation of the war and the prospects of economic dislocation thereafter make it clear that the need for extra supplies of natural dyestuffs will continue and indeed increase for some time to come. Under these circumstances a reasonable guarantee by users seems the part of wisdom, and is doubtlessly the only way to secure the extra supplies.

In the second place, the gaps in the range of colorings obtainable from the present available dyestuffs could be closed up by the manufacture in this country of a comparatively small number of artificial products chemically similar to the natural dyestuffs. Already domestic concerns, depending on guarantees from mills, have made a few of the more easily producible intermediates and artificial colors, and in quantities that have afforded measurable relief to many mills, and this without waiting to start the comprehensive industry. A step further would be to make such products as artificial indigo—and in passing it can be noted that this project is being vigorously attempted already—and such products as alizarine red and alizarine blue, both of which give rich bright colorings of extra fastness to light and soap. Here again there should be some guarantee, as suggested for securing extra supplies of natural dyestuffs. If half a dozen to a dozen such products could be made in this country, on a large scale, with increased production of the natural and the simpler artificial colors, we would soon have an adequate supply of dyestuffs for most of the demands of the cotton trade.

One may ask, if a guarantee for the natural dyestuffs and a few artificial dyestuffs is necessary, why not a guarantee for the comprehensive industry? This question omits to take into account the all-important element of time, but may be answered briefly: the hazard involved in the comprehensive venture is too great. The hazard in the enlargements I propose is relatively much less. That the hazard involved in erecting a comprehensive coal-tar colors industry under present conditions is great is proved by the fact that with unparalleled opportunities of the past year and the future for favorable trading, the enterprise has not been undertaken in a large way. Despite the statements that have been current in this country, thousands of dollars only have been put into new dyestuffs plants where millions are needed.

This brings me to my third and final suggestion of how to secure immediate relief. A conference should be held in which the dyestuff needs of the country should be considered. This conference should seek to reduce styles and requirements to conform to the possibilities from the smallest range of dyestuffs possible, and should then pick out the dyestuffs. Not all the known dyestuffs are needed to keep the wheels of industry in motion. Such a selection would reduce the financial hazard to a sane minimum, which could be distributed over all the interests involved.

To summarize and restate these suggestions in one paragraph: The brunt of extra demands of the mills in the coming year can be borne by the natural dyestuffs. The processes for the manufacture of natural dyestuffs in commercial forms are in operation, and are thoroughly understood; the supply of natural raw material is abundant, although complicated by occasional embargoes and difficulties of transportation. The problem has ceased, therefore, to be a scientific one, and has become one only of economical and financial import. The missing link in the chain between nature's products and the needs of the mills lies in the inability at present of the existing plants to turn out an adequate supply. They reasonably cannot be expected, without assurance of a continuance of their business,

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to embark alone on the financial risks involved. For those requirements which the natural dyestuffs cannot fulfil there should be manufactured certain artificial dyestuffs, also under suitable guarantees. A conference should be held representing all the branches of industry dependent on colors to reduce styles, trade requirements and the number of colors to a reasonable and workable minimum.

I am well aware that even these suggestions open questions of considerable magnitude. How far do we want to go? Do we wish eventually to surpass the Ger-

man industry? What is wise for the present; for all time? These matters can only be threshed out in a representative conference such as I have suggested. Whatever may be our individual ideas or preferences as to the proper future of the colors industry in this country, and the proper position of this nation in the world's scientific and commercial life, we are in substantial accord on two points. The present chasm and distress must be bridged, and such readjustments and reconstructions must be brought about as to insure the safety of the future.

Cotton Handling in Southern Warehouses.*

In recent years great improvements have been made in the South in the construction and arrangement of cotton compresses and warehouses. They have been constructed of reinforced concrete or according to slow-burning construction methods. Where possible the warehouses have been arranged in groups with fire-lanes or streets between them. This arrangement in large plants takes a great deal of room, and necessitates the internal moving of bales over distances which are much too great for the old-time hand truck with one man to each bale.

The large group of warehouses of the Memphis Terminal Corporation was the first to install what is known now over the South as the cotton trolley. This was designed and installed by Mr. Daniel Breck of St. Louis. Some idea of this trolley and the great saving it makes in handling cotton is gained by the following descriptions:

This plant covers an area of 170 acres. In it practically all of the cotton comes in on railway cars and is unloaded on the receiving platform. It is then hung on the trolley hooks and runs by gravity to the doors of the warehouse. When cotton is taken out of the warehouses and carried to the compress, it is again hung on the trolley and a mule pushes a lot of bales to the pressroom. One mule and his driver push 4000 bales daily an average distance of one-half mile in 10 hours. Compared to this, it formerly took 100 mules, 100 drivers and 100 drays to do approximately the same work. This system has been in active operation since 1907. In 1913-14 this plant handled, in two months and 19 days, 14,083 cars, containing 541,384 bales of cotton.

In 1912, in Galveston, Tex., the Galveston Cotton Compress and Warehouse Co. built a new plant entirely of reinforced concrete, which occupies seven square blocks of ground on a lot 712x1120 feet. The compress is located in the center; the railways extend down the long sides of the property. Cotton is received on unloading platforms, where it is weighed, sampled and graded; it is then hung on the trolley, which in this case is level, and pushed by hand until it comes opposite the door of the warehouse. Hand trucks are now used to take the bales into the warehouse. When sold the bales are taken out of the warehouses, hung on the trolleys and carried into the classing shed. Here a saw-tooth roof gives a perfect light. This is called the display room of this plant; here the buyers inspect and accept or reject the bales. From here the bales are carried to the pressroom, and after compressing are stored or taken at once to the cars or to the wharves. One man can easily push from 6 to 10 bales on the trolley and go at a fast walk, whereas one can only push one bale on a hand truck and then only at a rate of 100 feet per minute. It is estimated by Mr. J. E. Mitchell, the manager of this plant, that his labor cost has been cut in half by this installation.

The next trolley system to be installed was in the Merchants' Compress at Houston, Tex. Here the plant was already built and the surface of the ground was very uneven. A gravity system was devised with power-operated inclined elevators to give the bales the proper elevation. This had to be changed later on account of the high winds. When the wind came from the Gulf the bales ran away, and when a norther blew they would not run at all. Now the line is placed at a uniform distance from the surface, and the bales are pushed by hand. Bales are brought out of the cars by hand trucks, transferred to the trolley and pushed by hand to the receiving sheds, and from there to the ware-

houses. The empty trolleys are pulled back by a man, who can easily return 40 or 50. This plant has about 7000 feet of trolley.

Another installation is in the plant of the Merchants & Planters' Compress and Warehouse Co. of Galveston. This plant is unique in that it combines both the trolley and the electric truck system of cotton handling. Bales are brought to and taken away from the trolley by the electric trucks, and a large lot of bales can be pushed along on this level system by the electric truck. The same truck that would be powerful enough to pull a train of trailers with 24 bales of cotton can push 80 bales if they are hanging on a trolley. In this installation the trolley tracks are hung by brackets from the walls of the warehouses, and bales can be dropped directly in front of the door.

The management of this plant are now planning to install a power rope system by which it is expected to hook a bale at the door of the warehouse and drag it back along the aisle of the warehouse or up to the top of a pile of bales. When this system is installed the hand truck will be almost out of business in this plant.

The new cotton storage warehouse now under construction by the Candler interests in Atlanta, Ga., is installing a trolley system, and the new plants now under construction in Augusta and Savannah are each considering the installation of a trolley system, and will perhaps have decided on it before this paper is presented.

A paper with the title of "Cotton Handling in Southern Warehouses" would not be complete unless a mention was made of the new and mammoth plant now being built in New Orleans by the State of Louisiana, but as this plant is not yet completed, no data are now available as to cost of handling. A trolley system would no doubt be a great advantage to cost reduction in this plant, but electric storage-battery trucks are proposed and will be given a thorough try-out by the engineer.

The City of Houston, Tex., is constructing a cotton wharf located on its ship channel. Large concentration sheds into which bales are unloaded from the cars are to be equipped with the cotton trolley, and bales will be carried directly to ship side. This plant will be in operation next fall.

It is hoped by the author of this paper that the mills of The National Association of Cotton Manufacturers may see something in this paper which may benefit them in cotton bale handling around their plants.

The cost of the track and supports varies, according to materials of construction, from \$1.50 to \$4 per foot, while the trolley and hooks average about \$10 per set. We have found in compress and warehouse work that when we have to carry bales over 250 feet a trolley system is a better proposition than hand trucks. Of course, the number of bales to be carried is a vital factor in the answer as to whether or not it will pay to put in a trolley.

Cuba Cane Sugar Corporation.

In announcing the issue of \$50,000,000 of 7 per cent, cumulative convertible preferred stock of the Cuba Cane Sugar Corporation, J. & W. Seligman & Co. of New York state that all the shares which they recommend for investment have been sold. The stock is preferred as to assets as well as dividends, and is redeemable in whole or part on any dividend date on 60 days' notice at 120 and accrued dividends. Dividends are payable quarterly. The assets include 17 sugar mills, 330,000 acres of land, 395 miles of railway and other property in Cuba. Manuel Rionda is president.

*Address of John R. Fordyce, Engineer, Little Rock, Ark., at Annual Meeting No. 100, Boston, Mass., April 26 and 27, 1916.

ALABAMA POWER COMPANY'S \$4,000,000 EXTENSION OPERATIONS.

Contracts Let for Big Power Developments Recently Reported.

The \$4,000,000 expenditure recently announced as to be made by the Alabama Power Co. for the building of an additional hydro-electric plant on the Coosa River and the construction on the Warrior River of a large supplementary steam plant will be vigorously pushed, contracts having been let for equipment.

President James Mitchell wires from Birmingham to the MANUFACTURERS RECORD in regard to the closing of contracts for the proposed steam-electric generating station, and says:

"Warrior steam plant will have six 1200 horse-power Stirling boilers, operating pressure 225 pounds, 100 degrees superheat; one 20,000-kilowatt Westinghouse turbo-generator; five Westinghouse underfeed stokers; one type E underfeed stoker; one Westinghouse Le Blanc jet condenser. Building of brick and concrete construction; brick stack; outdoor transformers and switching apparatus. Plant designed for ultimate capacity of 60,000 kilowatts; lock 12, extension 1, 19,600 horse-power; I. P. Morris single runner turbine connected to one 13,500 K. V. A. Westinghouse generator."

Supplementing President Mitchell's telegram, the company's general manager, Mr. F. H. Chamberlain, sends the following additional details:

"We are adding one single runner vertical turbine to lock No. 12 equipment. The rated capacity of this wheel at 68-foot head is 19,600 horse-power, and as it will operate under a present head of 72 feet, it will be the most powerful single runner turbine in the world. It is being made by the I. P. Morris Company. The generator to be attached to this turbine is being made by the Westinghouse Electric & Manufacturing Co., and is of 13,500 K. V. A. capacity. A Kingsbury thrust bearing will be used. Foundations for this unit are already in place, but it will be necessary to extend the power-house to house this equipment. This will bring the capacity of the lock No. 12 plant up to 90,000 horse-power.

"The Warrior steam plant will be a reserve plant which will become a part of the Alabama Power Co.'s system, and it is to be located on the Mulberry fork of the Warrior River on slackwater formed by the construction of the lock No. 17 dam. It is about 25 miles from Birmingham, and the site was selected on account of the abundance of cooling water, low-priced coal and river and rail facilities for transportation of coal and supplies. It is situated in the heart of the Warrior coal fields. The main items of equipment which have been purchased are these: Six 1200-horse-power Stirling boilers from the Babcock & Wilcox Company, operating pressure 225 pounds, 100 degrees superheat at rating; 20,000-kilowatt steam turbo-generator, 60-cycle, 3-phase, 6600 volts; five Westinghouse underfeed stokers; type E underfeed stoker from the Combustion Engineering Corporation; Westinghouse-Le Blanc jet condenser. This power-house will be of brick and concrete construction, with a brick stack, outdoor transformers and outdoor switching apparatus. The plant is being so designed that it will be possible to extend its capacity to 60,000 kilowatts."

FREEPORt CHEMICAL WORKS.

\$120,000 Investment for Subliming Sulphur Mined at Freeport, Tex.

The Freeport Chemical Works for Freeport, Tex., will invest \$100,000 to construct a 224x163x175-foot reinforced concrete and brick building and \$20,000 to install milling and subliming machinery, the daily output to be eight tons of sulphur sublimed. J. W. Fay of Freeport is the construction engineer, and P. M. Paulson of San Francisco is the architect. This plant will handle sulphur mined by the Freeport Sulphur Co. It was recently mentioned by the MANUFACTURERS RECORD as to be established under the name of the Freeport Chemical Works by the San Francisco (Cal.) Chemical Co., which is controlled by the Stauffer Chemical Corporation of New York, San Francisco, Bordeaux, France, and Gernsheim, Germany.

Unprecedented Demand for Gasoline Greatly Stimulates Refining Industry

GASOLINE PRICES BY INDEPENDENT AND STANDARD OIL INTERESTS.

[Special Correspondence Manufacturers Record.]

Shamrock, Okla., April 22.

The gasoline industry has never been so attractive, never so interesting, and, consequently, never so much in the public mind as at the present time. Additional refining companies are being formed, new manufacturing plants are being constructed, several of the greatest of the oil-producing companies are entering the gasoline business, the casinghead gas gasoline industry is rapidly increasing, and Congress has the subject of gasoline and its prices under investigation.

The Federal Trade Commission of the United States has been conducting a gasoline investigation, necessarily involving the entire crude oil industry, for some time, and only recently has filed its preliminary report with the United States Senate. It carries a volume of figures on production and prices without attempting to reach conclusions as to the cause of price increase.

The Howard resolution, now pending in Congress, seeks an embargo against shipments of crude petroleum, gasoline, kerosene and similar products abroad, maintaining that the increase of such shipments has caused a price increase at home. In this connection the Federal Trade Commission report shows that the exports of gasoline, naphtha and benzine amounted to 284,500,000 gallons for 1915, as against 238,500,000 for 1914 and 188,000,000 for 1913.

The bill, introduced by Congressman Warren Bailey of Pennsylvania, and attracting national attention, empowers the Secretary of the Interior to proceed to the development of oil-producing lands included in the public domain, wherever located, of which Mr. Bailey asserts there are 6,000,000 acres. He seeks also to have the crude oil thus obtained from Government lands refined under Government supervision, to cheapen the price of gasoline.

The National Automobile Chamber of Commerce, with headquarters in New York city, is contemplating the development of oil lands and the refining of crude oil in order to cheapen gasoline prices, and announces that it has a capital of \$5,000,000 to \$10,000,000 for this purpose. In this connection S. A. Miles, manager of New York and Chicago automobile shows, says: "Consumers are paying at the rate of \$157,248,000 a year more for oil than they were paying in August, 1915." The automobile organization has representatives in the Mid-Continent field of Oklahoma and Kansas making inquiries in regard to production.

Independent oil refiners are using 120,000 barrels of crude oil a day at the present time, and it is estimated that they have \$30,000,000 invested in their refineries. The oil is costing the refiner all the way from \$1.55, the market price fixed by the Prairie Oil & Gas Co. in the Mid-Continent field, to \$2 a barrel, the latter price including a premium offered in order to secure the crude. While several refiners are attempting now to cut out the premiums, yet there are numerous contracts existing where the purchasers agree to pay the bonus. And in addition to paying the stiff bonus or premium the refining companies are also laying pipe lines to the oil properties.

Of the big producing oil companies now entering the refining end of the game, the Carter Oil Co., a subsidiary of the Standard, and the Roxanna, a subsidiary of the Dutch Shell, are the chief. The latter is now making arrangements, it is said, to build an extensive refining plant on its oil leases three miles north of Shamrock, where its Yahola farms are now yielding 9000 barrels of crude oil daily. The Roxanna also has a goodly production in the Healdton field in Southern Oklahoma, and at the present time it is reported to have pending a deal for additional production in the Cushing and Shamrock fields.

The Carter Oil Co. is building its refining plant on the south bank of the Cimarron River, near the town of Norfolk, Okla., on the extreme west edge of the Cushing field, where is located the extensive tank farms of the Carter. In addition to a daily oil production of 8000 to 10,000 barrels in this field, the Carter is credited with having 20,000,000 barrels of oil in storage,

the greater portion of which was purchased when crude oil was at a low figure.

What is beyond any doubt the greatest refining deal ever contemplated in the Mid-Continent field is that which Harry Sinclair of Tulsa, oil and baseball magnate, has just completed. For some time it had been rumored that Mr. Sinclair was organizing a big syndicate to take over the Milliken Refining Co. of Vinita, the Milliken Pipe Line Co., the Chanute Refining Co.'s plants at Chanute, Kans., and Cushing, Okla.; the Cudahy Refining Co.'s plant at Coffeyville, Kans., and several smaller plants, and combine them in one corporation with a capital stock of \$25,000,000.

Cosden & Co., of which J. S. Cosden of Tulsa is the head, has the distinction of having the most extensive independent refining plant in the United States, perhaps in the world, at West Tulsa. This company is now using 15,000 barrels of crude oil daily, and its plant is being enlarged by the erection of 25 additional stills and additional storage tanks, which will increase the capacity to 25,000 barrels of crude daily. The company will start its new lubricating plant within the next few weeks.

Cosden & Co. state that its profits for the first quarter of 1916, ending March 31, amounted to \$1,100,000, or at the rate of 125 per cent. on the outstanding common stock. During the past month the company has purchased 125 additional tank cars, giving it a total of 793 cars, and it is said the company has 2,000,000 barrels of crude oil in storage. During the present month the Cosden company added to its oil-producing properties by paying \$1,000,000 for a half-interest in the Iron Mountain Oil Co.'s 240 acres in leases, lying just east of Shamrock. A pipe line will connect the refinery with this field.

The Cudahy Refining Co. of Coffeyville, Kans.; the Indiana Refining Co. of Okmulgee, the Sapulpa Refining Co. of Sapulpa and the Continental Refining Co. of Bristow have also recently laid pipe lines to the Shamrock field to secure additional supplies of crude oil.

An organization of a company is being perfected at the present time which has for its purpose to supply independent refiners with crude oil. Articles of incorporation have been drafted and a charter will be taken out in Kansas and a license asked to operate also in Oklahoma. The stockholders will consist solely of persons connected with independent refineries, and the capital stock will be \$500,000, divided into 20,000 shares of \$25 each. It is understood that practically all of the independent refiners in the Mid-Continent field have subscribed stock. Except through paying exorbitant premiums, the independents have had difficulty in securing the crude oil necessary to run their plants, and the new organization seeks to prevent that condition. It will charge a premium of 5 to 10 cents per barrel as its commission.

As regards the Standard companies and the independent refiners, the report of the Federal Trade Commission to Congress shows that about 60 per cent. of the 1915 gasoline output was manufactured by the former, or a total of 681,750,000 gallons, as against 400,000,000 gallons manufactured by the independents.

The Federal Trade Commission's figures show also that the price of gasoline charged by independents has averaged about one cent higher than Standard Oil prices. In January, 1915, the Standard was selling gasoline f. o. b. at its refineries at 7.82 cents a gallon and the independents were charging 8.38. In December, 1915, the Standard was charging 12.84 cents a gallon and the independents 13.07 cents.

In this connection it is of interest to note that only recently the Pierce Oil Corporation, which has a big refining plant at Sand Springs, Okla., advanced its prices on gasoline and naphtha one cent a gallon, making its present quotation 23 cents wholesale and 25 cents retail. The latter is the ruling price for gasoline in Oklahoma, although it is understood to be considerably higher in western portions of the State. From San Francisco comes the announcement that the Standard Oil Co. of California has advanced gasoline one

cent a gallon, or 19 cents at the present time as against 12 cents, the selling price in San Francisco a year ago.

In addition to the plants of the Carter Oil Co. and Roxanna company, and in addition to numerous casing-head gas gasoline plants now being installed there are several independent refineries under construction and others being enlarged. The Magnolia Petroleum Co. is arranging to put in a gasoline plant at Ringling, and Charles Vought and W. A. Sohnen of Brin, Pa., are contemplating the erection of a refinery at Bartlesville.

The Milliken Refining Co. of Vinita is putting in eight new stills and increasing its crude oil capacity to 15,000 barrels daily. The North American Refining Co. of Pemeta has added a still, increasing to 3000 barrels a day, and the Rosedale Refining Co. of Kansas City, Kans., has increased its runs recently to 1100 barrels daily. The Continental Refining Co. of Bristow is increasing its daily capacity from 600 barrels to 1000.

It is reported that several additional refineries are to be built in Kansas this summer, resulting from the increasing oil production in that State. The O-K Refining Co., recently organized by Larabee Brothers, millers of Hutchinson, Kan., has completed extensive improvements that have practically rebuilt the old Sunflower State Refining plant at Niota, Kans., and have started operations, using 1000 barrels of crude daily.

The Prairie Pipe Line Co. has completed its 8-inch pipe line from the Standard's refinery at Neodesha, Kan., to the El Dorado and Augusta fields, and started running oil during the past week. The new line is 93 miles long. It is understood that improvements on the Neodesha plant have increased the number of employees from 300 to 500. The company put the eight-hour day into effect last fall.

Another important refining plant is contemplated in the East, according to announcement from Warren, Pa., where a company has been organized with \$50,000 capital stock to build a refining plant at Clarendon to use between 3000 and 4000 barrels of crude oil daily. The plan is said to be to secure the oil from independent producers.

The Mid-West Refining Co. of Denver, Colo., has just ordered the construction of eight new stills at the plant at Casper, Wyo., and six more at the Greybull plant, doubling the capacity of the latter. The new stills at the Casper plant will be in addition to six that were installed during the winter months. The Standard Oil Co. of Indiana has ordered the building of 40 new stills at its Casper plant in addition to 20 that were built during the winter.

It is understood that fuel oil is not finding the ready market that it did a few months ago, and that its disposition is now one of the difficulties confronting the refiners. The price of fuel oil has increased, naturally, and a great many concerns that were using fuel oil have returned to coal, being unable to use the oil in competition with coal at present prices.

Petroleum Lands Owned by Government

Secretary Lane has just written the members of the Senate Committee on Public Lands submitting for their information estimates of the area of petroleum lands in public ownership, together with an estimate of the possible production from these lands. The Government has under withdrawal some 5,500,000 acres of land. These tracts are made up of public and private lands. It is believed that the public land amounts to approximately 3,000,000 acres. The largest amounts of publicly-owned lands believed to be oil-bearing are in the States of Utah, Wyoming, California and Montana, there being smaller acreages in Arizona, Colorado, North Dakota and Louisiana, although it is believed that only gas may be expected from the withdrawn land in North Dakota.

Conservative estimates for the petroleum content of the public lands in the various States are submitted showing an aggregate of 750,000,000 barrels.

Activity in Building Operations at Chattanooga

A late summary of building operations in Chattanooga for March gives the value of construction for the month at \$184,015. As compared with the corresponding month of last year, these figures show an increase of \$143,150.

Industrial Development at Baltimore Spurs Railroads to Activity

CURTIS BAY DISTRICT TO BE REACHED BY ALL TRUNK LINES HERE — TWO LOCAL ROADS ALSO PROPOSED.

The railroad situation in the Curtis Bay section is strikingly interesting because of the extraordinary industrial development in progress. With the Baltimore & Ohio Railroad, the only trunk line having trackage tapping the section, spending thousands of dollars in improving its terminals, announcement has just been made that it is to have competition through the entrance of the Pennsylvania Railroad into this territory adjacent to the harbor of Baltimore.

Besides building an additional pier to cost \$1,500,000 to handle the fast expanding exports of coal, the Baltimore & Ohio is greatly increasing its real estate holdings. Within the past six months more than 100 acres of land have been purchased, and plans are already made to lay 20 miles of track. The company has built spurs to practically every industrial plant, and traffic over the Curtis Bay branch has doubled within a year and will be further increased when the big manufacturing plants now under construction begin shipping their products.

At Masonville, where the company owns about 50 acres of land, there is unusual activity. Condemned cars of every type are stored there preparatory to being dismantled, and a large force of men is employed in this work. Wood that is in good condition is saved, but some of the poorer lumber is burned and some sold, the value of this salvaged wood being estimated at \$20 per car.

Tracks are being laid over a large area near Fairfield. On them cars loaded with goods for export and grain are stored. Quite a number of cars consigned to New York with freight for foreign shipment are held on these tracks, owing to the scarcity of ocean tonnage.

Extensive improvements to the tracks near the coal pier are under way, and will have a capacity of 4000 coal cars.

The Pennsylvania Railroad has made definite plans for entering the Curtis Bay district, which it will accomplish by means of car floats to be operated between its Canton yards on the opposite side of the harbor and the various plants along the waterfront.

The Chesapeake & Curtis Bay Railroad, of which John H. Zink, manager of the asphalt company, is a director, was recently granted the right to exercise its franchise. The company has planned to take in all of the plants along the Patapsco River north of East Brooklyn, and to spend \$300,000. It is reported that the Western Maryland and Pennsylvania are interested in the new road, and if it were extended to the Arundel Sand & Gravel Co.'s tract of 400 acres on the Patapsco River it is likely that a big development would take place. The line could be built along the shore for a distance of nearly three miles to Brooklyn. Frank A. Furst, president of the Gravel Company, was recently elected a member of the board of

directors of the Northern Central Railroad, controlled by the Pennsylvania Railroad.

To serve the large section along the east shore of Curtis Creek the Curtis Bay Railroad, controlled by officials of the Davison Chemical Co., is extending its lines.

The Davison company owns nearly 1000 acres of land along the creek and is developing it into factory sites. Several fertilizer factories are considering locating on the tract, and the road is extending a line to Hawkins Point, at the northeast corner of it. Besides, eight tracks on which cars will be stored are being built near the Davison plant. The road already serves the two Davison plants and the fertilizer factory of Swift & Co. A car slip allows transfer to every line. Lately a tract of 353 acres at Arundel Cove was purchased by John W. Frick, of Baldwin & Frick, Baltimore, for clients whose names have not been made known.

About 25 per cent. of the work in connection with the erection of the Baltimore & Ohio's new coal pier at Curtis Bay is complete. This pier will necessitate radical changes in the yards. A bulkhead of timber 600 feet in length is under construction to connect two projecting points of land on Curtis Creek. When completed the area enclosed, more than 20 acres, which is now covered by water, will be reclaimed. Besides this, much land that was heretofore marshy and partly submerged has been made available for use. A large suction dredge is at work deepening the channel approach to the pier to give a depth of 35 feet. The mud and dirt from the river bed is pumped for a distance of nearly a mile inland to fill the lowland and make the proper grade for the yards. The average depth to which the tract will be filled is eight feet. Retaining walls have been built, and thousands of cubic yards of dirt are being utilized in connection with the work.

The coal pier is of the gravity type. After the cars are pushed up on the pier to a distance of 1400 feet from the thawing shed no engines will be used to move them. From that point the pier slopes until it is 15 feet above low tide. The cars containing frozen coal will be allowed to "float" to the thawing shed, where they will go through the drying process. Then they will "float" to the unloaders, where the coal is transferred to the conveyors. The cars are then again allowed to run by gravity to a switch, where a "barney," an electric donkey, will push them for a distance of 400 feet to the top of a grade, from which they will "float" to a point near the beginning of the pier.

A 200-foot brick chimney has been erected by H. R. Heinicke, Inc., 147 Fourth avenue, New York, and a battery of boilers of 1000 horse-power have been installed by the Babcock & Wilcox Company, 85 Liberty street, New York. This power-house will supply steam for heating the thawing shed as well as furnish power for operating all the equipment of the pier. Probably

more units will be added later. H. S. Kerbaugh, Inc., 723 Munsey Building, Baltimore, is doing the dredging work; Smith-McCormick Company, Curtis Bay, the grading and putting in foundations for unloaders and conveyors; Edward Brady & Son, 1113 Cathedral street, Baltimore, erecting power plant; W. G. Cornell Company, Everett Building, New York, plumbing and steamfitting; Surety Engineering Co., 127 Duane street, New York, erecting thawing shed; The Phoenix Construction Co., 721 Munsey Building, Baltimore, concrete piles and erecting pier.

Within a short time the thawing shed will be concreted, making it fireproof. The building is of frame construction, and has been covered with reinforcing material for concrete. The concrete is to be placed both on the inside and outside of the building. Every effort will be made to make the building practically airtight, and double doors will be put on the front and back. Among the equipment in use are four small engines, two piledrivers, two Ohio cranes, one dredge and two steam shovels.

WILL FULLY RESTORE SUGAR INDUSTRY OF LOUISIANA.

Improvements and Betterments, Halted by Senate's Attitude, Will Now Go Ahead.

New Orleans, La., April 23—[Special.]—The Senate's final recession from its temporary adherence to a merely suspended "free-sugar" law and acceptance of unconditional repeal by a vote of 59 to 10 has spurred cane growers and their financial backers in Louisiana to a determination to rebuild the industry, wherever rebuilding is necessary.

Many permanent improvements and betterments were in view when it first became apparent that the sentiment in Congress was for repeal.

When the Senate for a time seemed antagonistic, to the extent of limiting the period for duty, or possibly of substituting a consumption tax, plans for the future were at once held up.

"Free sugar" merely postponed until 1920 would not have rendered it possible for planters to obtain money for permanent investment in sugar-making machinery or equipment.

This is true despite the fact that the most thoughtful and best informed of the planters hold that so long as the war lasts, and for a considerable period thereafter, sugar will command an excellent price as compared with ante-bellum times.

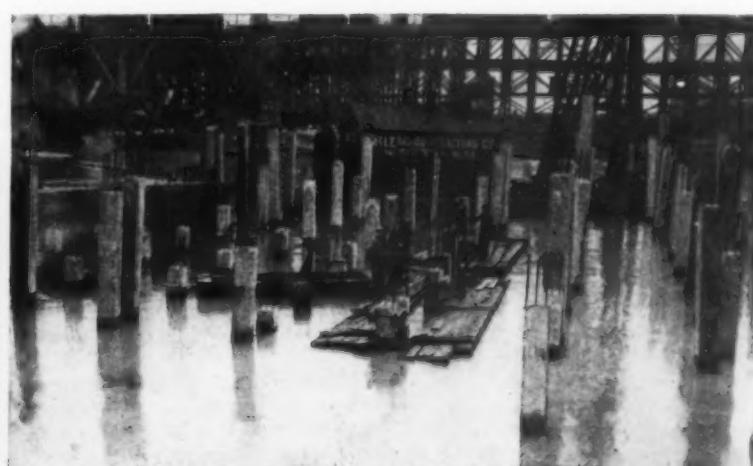
Recent rains and warm "growing weather" indicate a better crop condition for the current month than seemed likely ten days ago.

Louisiana at present outlook should have a considerably heavier production than in 1915, and at prices that continue to rule above the average for last season.

W. T. Rankin and associates, Gastonia, N. C., lately mentioned as to build a cotton mill, have incorporated the Osceola Mills with a capital stock of \$200,000. W. T. Rankin, A. G. Myers and R. G. Rankin are the incorporators.



LOCOMOTIVE CRANE EXCAVATING ON SITE OF PIER MACHINERY PITS. AT CURTIS BAY.



CONCRETE PILES AT SHORE END OF NEW \$1,500,000 COAL PIER OF B. & O. RAILROAD AT CURTIS BAY.

Southern Progress Typified in Activities at Savannah

**PORT FACILITIES MODERNIZED TO MEET REQUIREMENTS OF THE TIME—
ERA OF CONSTRUCTION IN PUBLIC AND PRIVATE LINES—\$3,000,000
SUGAR REFINERY UNDER WAY.**

By ROY G. BOOKER.

Savannah, Ga., April 21.

There is a decidedly good feeling among the business interests of Savannah. Optimists are encountered with every turn of the heel as you go from one business house to another. They tell you that "there's a reason," for business generally was never better and prospects seldom brighter.

They point with pride to the basis of Savannah's general prosperity. The city is spending hundreds of thousands of dollars for municipal improvements that were demanded by the ever-increasing number of new homes, which must be supplied with the facilities a city furnishes. The contract was let last week for the construction of two large sections of city sewerage and drainage systems, and other similar ones are to follow.

One reason for this expansion of the city systems is cited—a certain subdivision of land was started about two years ago. Eighteen months ago there were 30 houses constructed and in course of construction on the property; today there are over 400 residences on the same tract—and of the better class, too. So rapid was the section built up that on the opening day of a school, which was constructed by the city at the demand of the citizens located on the tract, there was an initial attendance of 500 children. This is only a typical case of the movement for more and better homes which obtains all over the city.

In actual tax assessments, according to Thomas Gamble, Jr., a city hall official, Savannah has now reached the \$60,000,000 class. The assessments have grown \$15,000,000 within the last 10 years, or at the rate of \$1,500,000 per year, a steady and substantial growth.

It is to these figures that Thomas Purse, secretary of the Board of Trade, points as substantiating the statement often made about Savannah, that while it has never had a real-estate boom, the growth has always been steady. Depressions have never materially retarded the general march of business events. The present great activity, both in building and general construction, and the good business in almost every line that Savannah is now experiencing are not especially remarkable, for, according to Mr. Purse, it is only a

normal development of the city and its environs that is taking place.

Public work to the amount of \$900,000 is proposed

fund for the general good of the county is the Tybee road. This road will be about 17 miles long, and will be constructed over marshes and streams from Savannah to Tybee, the chief seashore resort of this section. The cost will be approximately \$500,000. The construction of this road will constitute a complicated problem in good-roads engineering, but the authorities expect it to be ready for public use by the summer of 1918.

One of the local papers ventures the prediction that building, private and public, will total \$3,000,000 or more during 1916. Indications seem to justify the prediction.

The most recent and one of the most important of the new buildings is that of the bonded warehouse and compress of the Savannah Warehouse and Compress Co. The contract for this work was let recently,



BULL STREET, LOOKING SOUTH FROM CITY HALL. U. S. CUSTOM-HOUSE IN LEFT FOREGROUND, SAVANNAH BANK AND TRUST BUILDING, 15 STORIES, JUST BEYOND.

also by Scriven county as soon as the proceeds from a recently voted bond issue have been secured. Temporarily the matter is held up by litigation.

Included in the program for the disbursement of this

as mentioned in the April 6 issue of the MANUFACTURERS RECORD. The present contract calls for the immediate construction of the first of four units, the others to be constructed according to the needs and de-



ONE OF SAVANNAH'S THREE LARGE SUGAR REFINERIES.

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ands of the Savannah cotton interests. It represents the beginning of a plan to furnish cotton terminals and compressing facilities for and by the cotton interests themselves. The formation of the company to build the plant is the result of a co-operative movement among leading cotton men, railroad and steamship interests in Savannah. The present unit will cost \$600,000; with the site, \$800,000. When the four units are finally constructed the whole project will represent an outlay of more than \$2,000,000.

Perhaps the most important of all the 1916 items of industrial progress here has been the coming of the Savannah Sugar Refining Co., capitalized at \$3,000,000. The company's investment will represent all of \$3,000,000, perhaps more. The sugar refinery will be located on a 30-acre tract on the Savannah River, several miles from the city. The contract for construction has been let to Westinghouse, Church, Kerr & Co. They will have complete charge of the preparation of the plans and the actual construction of the plant. The refinery, according to the prospectus sent out to the stockholders, will have a daily capacity of 1,000,000 pounds of sugar, or 150,000 short tons per annum. The value



AMERICAN BANK & TRUST CO. BUILDING, OCCUPIED JANUARY 1, 1916.

of the total yearly output will be approximately \$15,000,000.

The refinery will be constructed in part from the equipment of the Adeline refinery, near New Orleans, which will be dismantled and moved here. The raw sugar for refining will be shipped directly from Cuba and Porto Rico. It is stated by Mr. Purse that, as a result of the great amount of shipping that will be done



BULL STREET, LOOKING NORTH TOWARDS CITY HALL FROM BROUGHTON. ON LEFT, NATIONAL BANK OF SAVANNAH BUILDING AND GERMANIA BANK BUILDING. ON RIGHT, SAVANNAH HOTEL AND SAVANNAH BANK & TRUST CO. BUILDING.



GE TEE WHICH SEVENTEEN VESSELS ARE LOADING.

between this port and Cuba when the sugar begins to move, a direct steamship line will be established for the accommodation of both passengers and freight.

Besides the Oxnard brothers, well-known sugar manufacturers, and James Imbrie, New York financier, there are a number of leading local business men on the board of directors.

Coincidental with the beginning of several new projects is the virtual completion of the Ocean Steamship Co.'s terminals, which will furnish Savannah with com-

local authorities, carry out the plan as soon as the obstacles have been removed.

The Municipal Auditorium Building, to cost approximately \$150,000, will soon be a reality. The site, bounded by Barnard, Perry, Holland and Jefferson streets, cost \$56,000. Plans are by Hendrik Wallin, Arthur F. Comer associate. Its size is 138 by 180 feet, four stories in height, with reinforced concrete front. The seating capacity will be 3400. It will have an electric passenger elevator, electric dumb-waiter and a floor lift. Among

the whole cost of the building is expected to reach \$90,000, \$15,000 of which was furnished by the city and the other by the Carnegie Foundation. H. W. Witcover was the architect.

The Savannah Golf Club is having plans prepared by E. W. Young for a new clubhouse, which will cost approximately \$22,000, the total appropriation for the purpose being \$30,000, which includes other improvements. The building will be two stories, brick and stucco construction, 122x70 feet, and the contract will be let about April 20.

The Savannah Press has purchased a site and will remodel the building on the corner of Whitaker and Congress streets for its quarters. H. W. Witcover is drawing the plans for the building, which will be three stories high, 46x60 feet, reinforced concrete construction; cost, \$30,000. Plans are ready for figures.

The congregation of the Southside Baptist Church has plans by H. W. Witcover for an edifice which will be constructed this spring at a cost of \$45,000. The main building will be 65x85 feet, constructed of brick.



MUNICIPAL AUDITORIUM-THEATER BUILDING TO BE ERECTED BY THE CITY OF SAVANNAH AT A COST OF \$150,000.

plete freight-handling facilities. It is planned to officially open the terminals for public use on May 15 with fitting ceremonies. J. G. Basinger, 52 Broadway, New York, is the construction engineer for the work, and B. H. Brown is the resident engineer. The buildings composing the terminal cover a roof area of 11½ acres. The total cost will finally reach \$1,250,000.

Aside from the river-front bulkheads, there has been constructed, between the two main buildings of the terminal, a slip of 26-foot depth which can accommodate four ships at once. It is 225 feet wide by 1020 feet long. The substructures of the piers and the buildings

special features will be an arrangement whereby the building can be converted from theater to a convention hall, or vice versa, at short notice. Another feature will be the decorations and effects, designed to give the appearance of a Roman amphitheater. There will be two tiers of seats overlooking the arena. The general construction of the building will be of steel.

The National Bank of Savannah recently awarded contract to Wm. H. Fissell & Co., New York, to remodel the interior and install new fixtures. Many inno-

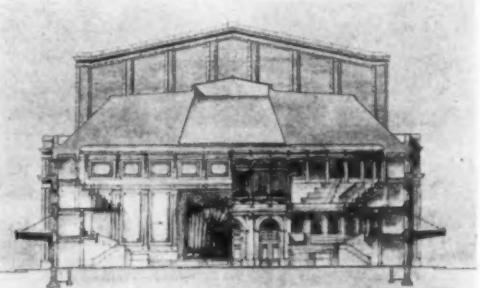


GENERAL OFFICE BUILDING OF THE OCEAN STEAMSHIP CO.

are of reinforced concrete; the superstructure of steel frame, with galvanized corrugated iron sides and roof.

It is officially reported that Eastern engineers have entered into negotiations for a site for a shipbuilding plant. Savannah, as a fresh-water port, has especial attractions to builders of wooden ships. Further details of this project are promised at an early date.

The Mexican Petroleum Co. has for some time sought to make this its Southeastern port for the shipment of oil, but has been balked through being unable to secure desired tracts of land. It will, however, according to



CROSS SECTION OF MUNICIPAL AUDITORIUM.

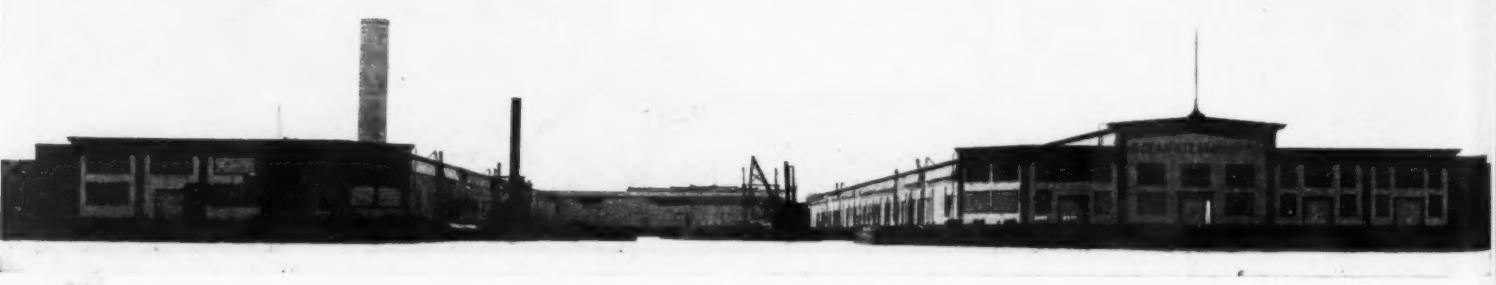
vations conducive to the comfort of both the customers and employes of the bank are embodied in the plans, which were prepared jointly by Dennis & Hiron of New York and H. W. Witcover of Savannah as associate architects. The cost of the whole contract is \$150,000.

The Hicks Hotel, which has been under construction for the past year and a half, is about completed at a total cost of \$260,000. H. W. Witcover, architect.

The Savannah Public Library is another of the interesting projects in Savannah about completed. A. A. Artley of Savannah has the contract for the work, and

Convention of Tennessee Bankers.

The twenty-sixth annual convention of the Tennessee Bankers' Association will be held in Chattanooga May 18-19, the Hotel Patten being headquarters, with business sessions to be held in the Auditorium. Fully 400 members are expected, the association now having over 90 per cent. of the 500 or 600 banks of the State as members. John Skelton Williams, Norman Hapgood, Bradford Knapp, William F. Dunbar, State insurance commissioner; George E. Allen, educational director of the American Institute of Banking; C. W. McNear, president of C. W. McNear & Co., Chicago, and leading Tennessee bankers are on the program. A feature of the meeting is the State bankers' sectional meeting.



OCEAN STEAMSHIP CO.'S TERMINALS AT SAVANNAH.

News and Views from Our Readers

How Alabama Answers an Important Question

THURSTON W. ALLEN, Florence, Ala.

In your issue of April 13, at page 40, under the heading of "What Answer Can the South Make as to These Questions?" you enumerate them in quotations from a letter received by your correspondent.

It is an easy matter to answer this question.

It is all talk about Northern people not being justly treated when they come South, socially and in a business way. They do not have to give up their principles, if they have any when they come. Some of our most successful business men are from the North. Politically, they vote in national affairs as they voted before coming. In State matters they generally vote with the Democrats.

In answer to all of these questions propounded by your correspondent, so far as Alabama is concerned, I will simply quote for the benefit of your correspondent and any other that may want to know, a statute I had the honor of putting on our statute-books, formally declaring the settled policy of the State of Alabama relative to vested interests of capital in the State of Alabama, present and prospective, whether domestic or foreign.

Acts of Alabama Legislature, 1911, page 3:

Be it resolved by the Senate, the House concurring: First. That whereas, by reason of legislation heretofore enacted in this State, an impression has been created in many quarters that capital invested in the State of Alabama may not have the conservative safeguards thrown around it that obtains in other sections of the country. And whereas this fact has been spread abroad by the public press of the country to the injury of the business interests of the State: Now, therefore, be it resolved, that it is hereby formally set forth and declared to be the settled and permanent policy of the State of Alabama that property rights of every character, whether foreign or domestic, shall be rigidly and scrupulously protected; that investors of capital, whether money, mind or muscle, shall have thrown around them the protection of wise and just laws, to that end that the great resources of mine, field and forest may be developed to their fullest scope and capacity, and we invite all people to come and share the good things we have.

Approved February 1, 1911.

Could anyone do more?

Had your correspondent read, as I have, for the last 25 years the MANUFACTURERS RECORD, he would not have asked this question.

You have year in and year out advocated just the reverse of what he complains. You have and are doing more today to bring the South to a proper realization of her great possibilities than all the other factors combined. I am only stating what every honest man knows to be facts.

Your aggressive fight now being so vigorously waged for protection is appealing more to Alabama than anything you have ever done. The thinking, working up-builders of the State are taking notice. They know and are beginning to realize that *protection* is what they need before they can have any real prosperity.

We call Alabama the Pennsylvania of the South. What made Pennsylvania the richest mineral State of this Union? Only one answer can be given—protection. Anything else is not good sense.

Alabama has 53 known minerals, yet only three of which are developed to any extent. It is time to awaken, and you are arousing them from their slumbers and causing them to think.

For the enlightenment and the purpose of enlarging his information, I would ask your correspondent to refer to your issue of November 30, 1911, at page 47, and have him re-read what was said by Mr. Post at the annual banquet at the Waldorf-Astoria at the annual meeting of the Railroad Business Association on the 23d day of November, 1911, referring to the resolutions above quoted. Mr. Post, the president of that association, said, among other things, that "Alabama had probably taken the most advanced step of any State in the Union."

There are none so blind as those who do not want to see.

[The correspondent to whom Mr. Allen so strongly and clearly replies is a business man of large means who honestly desired information about the South. He had no desire to injure the South, but he sought to have an answer to impressions gained from what he had heard

others say. We are glad to have Mr. Allen's statement, and we would like to know if, in his judgment, Alabama is definitely and finally committed by its people to the policy he has so clearly outlined. We follow this with another letter from a New York man on the same subject. He states that certain beliefs exist in the North about the South. Whether these views are wholly unfounded or not they do affect the feeling of money people as to Southern investments, and therefore the South should study the whole situation intelligently and sincerely.—Editor MANUFACTURERS RECORD.]

Another View of the Same Question.

LOUIS A. FREEDMAN, Technology Sales Co., Inc., 29 Broadway, New York.

I am enclosing herewith check for \$1, for which please send me two copies of your book, "National Insuredness Through National Preparedness."

I have read with much interest the letter of a leading business man of Northern New York, which you reproduce on page 40 of your April 13 number.

The campaign for preparedness which you have well undertaken and are ably carrying on is ramifying out into so many different directions that it amounts virtually to a campaign for the remaking of the entire country. The letter of your correspondent seems fair and reasonable, and indicates that the MANUFACTURERS RECORD must not alone strive to influence capitalists to invest money in the South, but must also strive to influence the South to receive these capitalists and their enterprises in the proper spirit.

Personally, I know directly very little about the South, as my business dealings in that direction have been limited. I do know, however, that business men with whom I have spoken do not entertain a flattering opinion of Southern commercial methods and the Southern commercial attitude. This opinion is perhaps more widely held, and may be more influential than is surmised, and perhaps may explain in part why capital has drifted toward the West and North rather than the South. Perhaps, after all, the South may have to share a full half of the burden of responsibility for not having its enormous resources better developed. May not the accomplishment of your aim to have munition plants, armor making and projectile making plants located in the South be more quickly brought about if the South itself gave tangible evidence of its being free from those faults and prejudices that your correspondent indicates?

All Joplin Zinc Records Broken.

THE LYON INVESTMENT CO., Joplin, Mo.

Shipments of zinc and lead ores from the Joplin district for the week ending April 15 amounted to 27,401,280 pounds, which sold for \$1,433,827, breaking all previous records for one week's shipments. This tonnage is about 10,000,000 pounds above the present weekly production, and represents the previous week's "clean-up" of practically every pound of ore in bins at the mines throughout the district, 153 mining companies appearing in the sales reports.

Total production of the district for the first 15 weeks of 1916 amounts to 224,053,838 pounds, which sold for \$12,833,717, a sum that has been exceeded only nine times by any annual output during the past 50 years.

The price of zinc ore advanced \$5 a ton last week to \$125, making an advance of \$10 a ton since April 1. Lead ore is steady at its new record price of \$102 a ton.

There is not a pound of surplus ore in this district today.

Urges a Fuller Appreciation of South's Possibilities.

C. W. HAHL, President C. W. Hahl Company, Inc., Houston, Tex.

As one of the largest landowners and general land dealers in Texas, or in the whole South, for that matter, we wish to thank you for the wonderful campaign

you have been waging through your excellent journal in the interest of a fuller appreciation of the great untouched resources of the South and their great possibilities when properly exploited.

For nearly a quarter of a century C. W. Hahl, individually, and later through the medium of the C. W. Hahl Company, Inc., has engaged in colonization and home building in South Texas. During that time thriving colonies have been established in a great number of counties, and at the present time this concern is engaged in developing colonies in McMullen, Duval, Bee and other counties, besides the extensive development being carried on in the Fairbanks-Satsuma districts, suburban to Houston, where this company owns 4000 acres.

Having been brought face to face with the generally dilapidated and often hopeless methods of farming, and, in fact, living, prevalent in places which otherwise would be second to none in prosperity and happiness, we certainly do appreciate any effort being made to correct these conditions. Of course, much ground has already been gained, but we realize that the fight for better farming methods, better grades of stock, better drainage, better marketing methods and a fuller use of those things which the good God has placed to the hand of the dweller in the South must be eternally kept up or much that is gained will be lost.

Jackson Wants Water-Works.

MALCOLM H. HOLLIDAY, Jackson, Ky.

The citizens of Jackson, Ky., are anxious to have a water plant installed, and will gladly co-operate with outside capital in the enterprise. Jackson has about 3000 inhabitants, is situated on the North fork of the Kentucky River, about 150 miles below the head of the river, and is in the midst of a great coal field and surrounded by vast forests of valuable timber.

Sumac Extract Outfit Wanted.

C. W. BUTTERWORTH, Milford, Va.

Can you give me the names of manufacturers of copper machinery for leechers and vacuum condensers for extracting sumac and other vegetable dyestuff? I would like to get quotations immediately for sumac extract outfit, costing \$6000 to \$10,000. Can you furnish me the name of an inventor of this kind of machinery?

Another plant will very probably be erected here in the near future that will represent an investment of \$20,000.

Haigh & Miller, successors to R. T. Knox & Bro., have doubled the capacity of their sumac extract works and are working overtime to keep up with business. This is a good location for such business, and the field is not fully covered.

Rebuke Well Merited.

WILLIAM H. COOK, 80 Maiden Lane, New York.

I can scarcely refrain from expressing just this word of approval of your timely protest, in your issue of March 30, against the impious parody upon the sweet and sacred utterances of our Lord, familiarly known as the Beatitudes. To those of us, and thank God our name is legion, who learned them at our mother's knee it seems a revolting sacrilege that God only can forgive. Moreover, the "Sermon on the Mount" has long been regarded as one of the classics of literature, its moral and spiritual teachings applicable alike to Protestant, Catholic, Jew and Christian, or those even who, like the acknowledged author whom you quote, fail to give the proper place to the World's Redeemer. It does seem inconceivable that any professed preacher of righteousness, especially one so well known, should publicly offend good taste and do violence to the feelings of thousands who revere the gracious words which have been so miserably distorted, and it is to be hoped that your well-merited rebuke may serve as a deterrent against further perversion of the Word of God.

An Inventory of the Nation's Manufacturing Facilities

President Wilson has issued to the business men of the country an appeal for co-operation with the Committee on Industrial Preparedness of the Naval Consulting Board in its proposed industrial inventory of the country's resources for national defense. This committee proposes to get in touch with the leading manufacturing interests of America, and will seek from them information on many points.

The importance of the work is outlined in this issue in an editorial based on an article by Mr. Howard E. Coffin, chairman of the board.

In President Wilson's statement, addressed to the business men of America, he says:

I bespeak your cordial co-operation in the patriotic service undertaken by the engineers and chemists of this country under the direction of the Industrial Preparedness Committee of the Naval Consulting Board of the United States.

The confidential industrial inventory you are asked to supply is intended for the exclusive benefit of the War and Navy Departments, and will be used in organizing the industrial resources for the public service in national defense.

At my request the American Society of Civil Engineers, the American Institute of Mining Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers and the American Chemical Society are gratuitously assisting the Naval Consulting Board in the work of collecting this data, and I confidently ask your earnest support in the interest of the people and Government of the United States.

Instructions issued by the Industrial Preparedness Committee to its field organization of more than 30,000 engineers in taking the inventory of manufacturing establishments directs them to keep the inventory confidential and to retain no copies of it for their own use.

"Impress upon the manufacturers that the schedule does not call for information of a private nature," adds the committee. "However, the field aid should use every precaution against 'leaks.' No information obtained from a manufacturer shall be given out under any circumstances. The manufacturers should be assured that the report will be so handled as to prevent the disclosure of any information hurtful to his business."

A committee of five from each State, who will become associate members of the Naval Consulting Board, have been nominated by the societies mentioned in President Wilson's statement. These appointees are as follows:

ALABAMA.

J. S. Sewell, Alabama Marble Co.; Gant's Quarry; Priestly Toumlin, Lehigh Coal Co., Birmingham; F. H. Crookard, Tennessee Coal, Iron & Railroad Co., Birmingham; Theodore Swann, Alabama Power Co., Birmingham; B. B. Ross, Alabama Polytechnic Institute, Auburn.

ALASKA.

John Wulzen, Alaska Gold Mines Co., Thane; Philip R. Bradley, Alaska Treadwell Gold Mining Co., Treadwell; George A. Diamond, Scheid & Co., Nome; Louis E. McCoy, Juneau; W. P. Lass, Juneau.

ARIZONA.

J. B. Girard, city engineer, Phoenix; John C. Greenway, Calumet & Arizona Mining Co., Warren; A. G. McGregor, Calumet & Arizona Mining Co., Warren; David W. Jones, Arizona Copper Co., Ltd., Clifton; Frank N. Guild, University of Arizona, Tucson.

ARKANSAS.

Charles H. Miller, Miller Engineering Co., Little Rock; J. R. Fordyce, Thomas Fordyce Manufacturing Co., Little Rock; B. N. Wilson, University of Arkansas, Fayetteville; W. N. Gladson, University of Arkansas, Fayetteville; J. B. Rather, Agricultural Experiment Station, Fayetteville.

CALIFORNIA.

Wynn Meredith, Sanderson & Porter, San Francisco; G. W. Dickie, San Francisco; C. W. Merrill, Merrill Metallurgical Co., San Francisco; A. H. Babcock, Southern Pacific Power Co., San Francisco; Edmund O'Neill, University of California, Berkeley.

COLORADO.

H. S. Crocker, Denver; D. W. Brunton, Denver; T. E. Stearns, Denver; W. S. Aldrich, Colorado Agricultural College, Fort Collins; R. B. Moore, U. S. Bureau Mines, Denver.

CONNECTICUT.

H. R. Buck, Ford, Buck & Sheldon, Inc., Hartford; Ell

Whitney, N. & N. H. Trust Co., New Haven; H. B. Sargent, Sargent & Co., New Haven; Samuel Ferguson, Hartford Electric Light Co., Hartford; E. W. Morley, West Hartford.

DELAWARE.

Andrew Bryson, Brylton Steel Casting Co., New Castle; Thomas Coleman du Pont, 129 Broadway, New York City; R. W. Smith, Hilles & Jones Co., Wilmington; W. C. Spruance, Jr., E. J. du Pont de Nemours & Co., Wilmington; Chas. L. Reese, E. L. du Pont de Nemours & Co., Wilmington.

DISTRICT OF COLUMBIA.

C. B. Hunt, Engineer Highways, D. C., Washington; Hennen Jennings, Washington; Dr. W. S. Stratton, Bureau of Standards, Washington; John H. Finney, Aluminum Company of America, Washington; Charles L. Parsons, U. S. Bureau Mines, Washington.

FLORIDA.

L. R. McLain, St. Augustine; Robert N. Dickman, St. Augustine; R. E. Chandler, University of Florida, Gainesville; C. S. Hammatt, Consolidated Engineering Co., Jacksonville; E. R. Flint, University of Florida, Gainesville.

GEORGIA.

G. R. Solomon, Solomon-Norcross Company, Atlanta; S. W. McCallie, State Geologist, Atlanta; Oscar Elsas, Fulton Bag & Cotton Mills, Atlanta; A. M. Schoen, Underwriters' Association, Atlanta; F. N. Smalley, Southern Cotton Oil Co., Savannah.

IDAHO.

M. S. Parker, St. Maries; Stanley A. Easton, Kellogg; George F. Waddell, Squirrel, Fremont County; O. G. F. Markhus, Electric Investment Co., Boise; J. Shirley Jones, University of Idaho, Moscow.

ILLINOIS.

R. W. Hunt, Chicago; Frederick K. Copeland, Sullivan Machinery Co., Chicago; Dr. W. F. M. Goss, University of Illinois, Urbana; P. Junkersfeld, Commonwealth Edison Co., Chicago; William Hoskins, Mariner & Hoskins, Chicago.

INDIANA.

William K. Hatt, Purdue University, Lafayette; George P. Hulst, International Lead Refining Co., East Chicago; George O. Rockwood, Rockwood Manufacturing Co., Indianapolis; F. S. Hunting, General Electric Co., Fort Wayne; H. E. Barnard, State Food & Drug Inspector, Indianapolis.

IOWA.

George H. Boynton, Northern Gravel Co., Muscatine; E. A. Sayre, Eagle Coal & Mining Co., Des Moines; S. M. Woodward, State University of Iowa, Iowa City; Norman T. Wilcox, Mississippi River Power Co., Keokuk; W. T. Coover, Iowa State College, Ames.

KANSAS.

D. H. Whitmer, Whitmer Contracting Co., Pittsburgh; H. H. Hixon, Prime Western Speier Co., Iola; A. A. Potter, Kansas State Agricultural College, Manhattan, Kan.; George C. Shaad, University of Kansas, Lawrence; W. A. Whitaker, University of Kansas, Lawrence.

KENTUCKY.

Richard Montfort, Louisville & Nashville Railroad, Louisville; Frank D. Rush, Bernard Mining Co., Earlington; W. S. Speed, Louisville Cement Co., Louisville; Carl P. Nachod, Nachod Signal Co., Louisville; A. M. Breckler, Janes & Breckler, Louisville.

LOUISIANA.

Arsene Perrilliat, Hercules Company, Ltd., New Orleans; unassigned; A. M. Lockett, A. M. Lockett Co., Ltd., New Orleans; M. S. Sloan, New Orleans Railway & Light Co., New Orleans; W. L. Howell, Appraiser's Laboratory, Custom-house, New Orleans.

MAINE.

E. C. Jordan, Portland; R. H. Richards, Massachusetts Institute Technology, Boston; J. S. Hyde, Bath Iron Works, Bath; W. S. Wyman, Central Maine Power Co., Augusta, unassigned.

MARYLAND.

H. D. Bush, Carnegie Steel Co., Baltimore; W. H. Peirce, Baltimore Copper Smelting & Rolling Co., Baltimore; C. C. Thomas, Johns Hopkins University, Baltimore; J. B. Whitehead, Johns Hopkins University, Baltimore; W. B. D. Penniman, Penniman & Browne, Baltimore.

MASSACHUSETTS.

Fayette S. Curtis, Old Colony Railroad Co., Boston; W. E. C. Eustis, Boston; Ira N. Hollis, Worcester Polytechnic Institute, Worcester; C. L. Edgar, Edison Electric Illuminating Co., Boston; A. D. Little, A. D. Little, Inc., Boston.

MICHIGAN.

G. S. Williams, Ann Arbor; M. M. Duncan, Cleveland Cliffs Iron Co., Ishpeming; Alex Dow, Detroit Edison Co.; H. H. Crowell, Michigan Railway Co., Grand Rapids; H. T. Gruber, Digestive Ferments Co., Detroit.

MINNESOTA.

William L. Darling, Northern Pacific Railroad, St. Paul; H. V. Winchell, Minneapolis; J. J. Flather, University of Minnesota, Minneapolis; William N. Ryerson, Great Northern Power Co., Duluth; G. B. Frankforter, University of Minnesota, Minneapolis.

MISSISSIPPI.

M. L. Lynch, Jackson; no resident member; R. C. Carpenter, Agricultural College, Miss.; J. T. Robertson, Mississippi Inspection & Advisory Rating Co., Vicksburg; William F. Hand, Mississippi Agricultural and Mechanical College, Agricultural College, Miss.

MISSOURI.

Daniel Bontecou, Kansas City; P. N. Moore, St. Louis; E. Flad, St. Louis; Charles S. Ruffner, Mississippi River Power Distributing Co., St. Louis; L. F. Nickell, Washington University, St. Louis.

MONTANA.

Eugene Carroll, Butte Water Co., Butte; J. L. Bruce, Butte & Superior Copper Co., Butte; C. V. Nordberg, Nordberg Manufacturing Co., Butte; M. H. Gerry, Jr., Engineering Corporation, Helena; E. P. Mathewson, Anaconda Copper Mining Co., Anaconda.

NEBRASKA.

Elliot Holbrook, Southern Pacific Company, Omaha; Walter T. Page, American Smelting & Refining Co., Omaha; William R. McKeen, McKeen Motor Car Co., Omaha; H. A. Holdredge, Omaha Electric Light & Power Co.; C. F. Crowley, Creighton University, Omaha.

NEVADA.

W. T. Gould, Nevada-California-Oregon Railway, Reno; W. E. Trent, Trent Engineering Co., Reno; James G. Scrugham, University of Nevada, Reno; W. K. Freudenberger, Public Service & Railroad Commissioners of Nevada, Carson City; Maxwell Adams, University Nevada, Reno.

NEW HAMPSHIRE.

Robert Fletcher, Thayer School of Engineering, Hanover; H. R. Batcheller, Washington, N. H.; Thomas W. Fry, Sullivan Machinery Co., Claremont; J. Brodie Smith, Manchester Traction, Light & Power Co.; Hugh K. Moore, Berlin Mills Co., Berlin.

NEW JERSEY.

Morris R. Sherrerd, Department Public Works, Newark; B. F. Cresson, Jr., New Jersey State Board Commerce & Navigation, Jersey City; H. L. Gant, New York City; Farley Osgood, Public Service Electric Co., Newark; H. S. Miner, Welsbach Light Co., Gloucester.

NEW MEXICO.

O. H. B. Turner, St. Louis, Rocky Mountain & Pacific Company, Raton; Stephen O. Andros, Albuquerque; L. J. Charles, U. S. Reclamation Service, Elephant Butte; J. L. Brennenman, University of New Mexico, Albuquerque; John D. Clark, University of New Mexico, Albuquerque.

NEW YORK.

James G. White, J. G. White & Co., New York; Chas. F. Rand, Spanish-American Iron Co., New York; W. H. Marshall, American Locomotive Co., New York; Wm. McClellan, New York; T. B. Wagner, Corn Products Refining Co., New York.

NORTH CAROLINA.

J. L. Ludlow, Winston-Salem; Joseph H. Pratt, State Geologist, Chapel Hill; Wm. S. Lee, Southern Power Co., Charlotte; Chas. L. Burkholder, Southern Power Co., Charlotte; F. P. Venable, University of North Carolina, Chapel Hill.

NORTH DAKOTA.

T. R. Atkinson, City Engineer, Bismarck; no resident member; Calvin H. Crouch, University of North Dakota, University; Edwin F. Ladd, North Dakota Agricultural College, Fargo.

OHIO.

Chester W. Larner, Wellman-Seaver-Morgan Company, Cleveland; Chas. S. Robinson, Youngstown Sheet & Tube Co., Youngstown; Frank A. Scott, Warner & Swasey Company, Cleveland; Samuel G. McMeen, Ohio State Telephone Co., Columbus; James R. Withrow, Ohio State University, Columbus.

OKLAHOMA.

H. V. Hinckley, Oklahoma City; M. M. Valerius, Valerius, McNutt & Hughes, Tulsa; unassigned; H. V. Bozell, State University of Oklahoma, Norman; Edwin DeBarr, University of Oklahoma, Norman.

OREGON.

Geo. C. Mason, Hurley-Mason Company, Portland; A. M. Swartley, Bureau Mines & Geology, Corvallis; Bert C. Ball, Willamette Iron & Steel Works, Portland; O. B. Caldwell, Portland Railway, Light & Power Co., Portland; O. F. Stafford, University of Oregon, Eugene.

PENNSYLVANIA.

Geo. S. Davison, Gulf Refining Co., Pittsburgh; Vance C. McCormick, Harrisburg; Julian Kennedy, Pittsburgh; Paul Spencer, United Gas & Improvement Co., Philadelphia; R. F. Bacon, University of Pittsburgh, Pittsburgh.

RHODE ISLAND.

John W. Ellis, Providence Gas Co., Providence; Walter M. Saunders, Saunders & Franklin, Providence; Henry D. Sharpe, Brown & Sharpe Manufacturing Co., Providence.

ence: L. W. Downes, D. & W. Fuse Company, Providence; J. E. Bucher, Brown University, Providence.

SOUTH CAROLINA.

John McNeal, City Engineer, Columbia; H. L. Sealfe, Clinton; J. L. Coker, Jr., Carolina Fiber Co., Hartsville; W. M. Riggs, Clemson Agricultural College, Clemson College; R. N. Brackett, Clemson Agricultural College, Clemson College.

SOUTH DAKOTA.

Bruce C. Yates, Homestake Mining Co., Lead; Allan J. Clark, Homestake Mining Co., Lead; M. W. Davidson, University of South Dakota, Vermillion; B. B. Brackett, South Dakota State College, Brookings; Wm. J. Sharwood, Homestake Mining Co., Lead.

TENNESSEE.

Wm. W. Carson, University of Tennessee, Knoxville; A. J. Blow, Carolina Copper Co., Knoxville; N. Sanders, Newell Sanders Plow Co., Chattanooga; F. G. Prouty, Memphis; J. F. Norris, Vanderbilt University, Nashville.

TEXAS.

Jno. B. Hawley, Fort Worth; Arthur J. McQuatters, El Paso; W. B. Tuttle, San Antonio Traction Co.; Fred A. Jones, Dallas; Geo. W. Gray, Texas Company, Houston.

UTAH.

A. F. Parker, Ogden; Lafayette Hatchett, Nat. Copper Bank, Salt Lake City; Wm. Wraith, Inter. Smelting Co., Salt Lake City; Markham Cheever, Utah Power & Light Co., Salt Lake City; Wm. C. Ebaugh, U. S. Smelting Co., Salt Lake City.

VERMONT.

Frank O. Sinclair, Burlington; C. B. Hollis, Eastern Talc Co., Randolph; James Hartness, Jones & Lamson Machine Co., Springfield; B. T. Burt, Rutland Railway, Light & Power Co.; G. H. Burrows, University of Vermont, Burlington.

VIRGINIA.

E. T. D. Myers, Jr., Commonwealth Coal Corporation, Richmond; Frank U. Humbert, Low Moor Mining Co., Low Moor; W. D. Mount, Mathieson Alkali Works, Saltville; Walter S. Rodman, University of Virginia, University; Frank B. Carpenter, Virginia-Carolina Chemical Co., Richmond.

WASHINGTON.

A. O. Powell, Seattle; J. C. Ralston, Pacific Coast Pipe Co., Spokane; James V. Paterson, Seattle Construction & Drydock Co., Seattle; John Harlsberger, Puget Sound Traction, Light & Power Co., Seattle; H. K. Benson, University of Washington, Seattle.

WEST VIRGINIA.

A. M. Scott, Charleston; I. C. White, State Geologist, Morgantown; Chas. E. Ward, Charles Ward Engineering Works, Charleston; H. S. Sands, H. S. Sands Electric & Manufacturing Co., Wheeling; A. R. Whitehill, West Virginia University, Morgantown.

WISCONSIN.

D. W. Mead, University of Wisconsin, Madison; F. W. O'Neill, Nordberg Manufacturing Co., Milwaukee; L. E. Strothman, Allis-Chalmers Manufacturing Co., Milwaukee; A. W. Beresford, Cutler-Hammer Manufacturing Co., Milwaukee; C. F. Burgess, C. F. Burgess Laboratories, Madison.

WYOMING.

Edward Gillette, Sheridan; W. D. Waltman, Franco-Wyoming Oil Co., Casper; E. G. Hoefer, University of Wyoming, Laramie; P. N. Nunn, Wyoming Electric Co., Casper; R. B. Moudy, University of Wyoming, Laramie.

Responsibility Laid Upon Local Commercial Organization to Protect the Public.

[New York Financial America.]

The necessity for keen discrimination in the matter of investing in enterprises which are either direct creations of the war or by-products of war-stimulated industries has been emphasized here this by Daily Financial America, but it is glad to reiterate the matter by way of response to the appeal of the MANUFACTURERS RECORD for "newspapers everywhere to sound a note of warning that the innocent may be saved from * * * gambling games which are likely to curse the country for some time to come." What is referred to particularly is "the organization of fake companies to boom town lots on the basis of establishing new industrial companies and of fake stock-jobbing schemes not only to catch 'suckers' but even to catch supposedly well-informed men."

The protection of the public against business adventurers is a mission to which commercial organizations throughout the country should devote much of their best energy now and for some time to come. Foresight in this matter has been exercised by a number of such associations, with immediately important results. We have called attention heretofore to the achievement of the Commercial Association of Boulder, Col., in keeping

that greatest of all tungsten regions of the world clear of the wildcat element.

There undoubtedly will be a strong effort, as the MANUFACTURERS RECORD indicates, to build real estate booms on the basis of rumors of the establishment of industrial plants in various localities. This is likely to be the case especially in the South, which is still suffering from the town-lot boom of 25 years ago. The West and Pacific coast sections have also suffered from the same economic disease. Apart from the discerning judgment of individual investors aroused to the pitfalls of "blue-sky" ventures, it is evident that the best protection lies in the chambers of commerce and similar organizations. A good rule for individuals and groups to follow in considering the investment of funds in any locality is to obtain the advice of the local commercial organization before making a decision. There is scarcely a section of any importance in the country which does not now possess an active business men's association. It is there to be used for just such purposes as indicated above.

A VIRGINIA STEEL PLANT.

Contracts to Be Let for Big Enterprise.

Owing to the fact that land speculation around Hopewell has been very active, there has been some fear that the proposed steel plant to be located at that point might have been projected as a land-operating scheme rather than as a thoroughly legitimate enterprise. From a leading railroad official the MANUFACTURERS RECORD, however, has an official statement, in the course of which the following is given in regard to this plant:

"The proposed steel plant is not a new enterprise, by any means. Neither is it identified with the so-called land speculations of Hopewell. In fact, the plant as projected was intended for a point down the James River on what is known as Powhatan Plantation, due north from Disputanta, a station on the main line of the Norfolk & Western Railway. When the announcement, however, was forthcoming that the Dupont company could promise little after the close of hostilities, some of the leading business men of Petersburg asked that the location be changed.

"The mill as planned will be modern in every appointment, electrically driven, and so constructed that it will be the latest and most modern mill now building. It will start as a billet mill and gradually expand. Among the principal local men interested are C. D. Eppes, Petersburg, Va.; C. S. Barrow, Alberta, Va.; Capt. T. F. Heath, Petersburg, Va.; H. Rosenstock, Petersburg; Walter Sachs, Petersburg, and numerous others who have taken stock in the plant, ranging from \$5000 upward. Of course, there are many more, but around this body of men they have laid the foundation of this plant and subscribed locally about \$300,000. In addition to this, there are subscriptions coming from other sources that make the common stock about half a million dollars.

"They propose to raise on the bond issue about \$1,000,000, and this will build the plant and give it ample working capital.

"The citizens of Petersburg and Hopewell are in earnest in their efforts, and I feel quite certain that they will succeed in the establishment of this plant, which will mean much to that section and to the South in general.

"After spending the greater part of three weeks in Petersburg and Hopewell and studying the situation at first hand, I have come to the conclusion that the future of Hopewell is assured whether the Du Ponts remain to any great extent or not. The section has been well advertised, and economic conditions are such that industrial success is assured, while the conservative business men of Petersburg have witnessed such a revolution in business conditions that they cannot think of going back to the life that existed there only a year ago.

"There is ample capital in Petersburg to finance not only one, but several such plants. The banks have nearly \$13,000,000 on deposit, and growing rapidly. The past year has seen an increase in deposits of \$4,000,000.

"I expect that final organization will take place this week, a charter to be applied for and contract let for the construction of the mill. The W. R. Miller Engineering Co., Pittsburgh, no doubt will be the engineer, and it

has promised to have the plant in operation within seven months after the contracts are signed.

"Nowhere have I witnessed so much determination to accomplish the desired end, so that in reality two weeks after the movement was launched the end was in sight.

"There was not a single dollar's worth of watered stock in the promotion. The site has been donated, and every man has to pay 100 cents on the dollar for his stock. The manner in which the bonds will be disposed of has not been decided upon, but in all probability a local syndicate will underwrite them and place them on the market, many of which will be purchased in Petersburg."

Portland Cement Association Opens South-eastern Office.

In line with its plans to broaden its educative and co-operative work for a greater expansion in the uses of cement, the Portland Cement Association, otherwise known as the Association of American Portland Cement Manufacturers, has just opened a Southern branch at Atlanta, Ga., with headquarters at 1123 Hurt Building.

The territory under the jurisdiction of the South-eastern office includes the States of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi and Tennessee. The scope of the association's work is national in character, and branch offices are merely for the convenience of handling more quickly work that naturally may be grouped by territorial divisions. As in the case of all of the association's efforts, activities of the South-eastern branch will be directed toward promoting the use of concrete in all possible ways.

Concrete roads will occupy the center of the stage, although surrounding this central point of interest will be the development of permanent construction on the farm, the extension of the use of concrete in all fields from the standpoint of fire protection, and the general educational work that naturally accompanies the spread of knowledge concerning the best ways to use any material for best results.

Attached to and working out of the South-eastern branch office at Atlanta are the following field men: L. S. Young, G. G. Mills, G. A. Beckett, J. S. Bailey, E. B. Harold, H. P. Pitcher, W. E. McComas, W. G. Gilson, D. N. Milhan, C. L. Bourne. These men are all especially equipped to advise with officials, engineers, contractors and all others regarding every phase of concrete construction work.

This is one of the several branch offices the association maintains, the others being at San Francisco, Kansas City, Dallas, Indianapolis and Denver.

The main office of the association is at 111 W. Washington street, Chicago, Ill.

Record Earnings of United States Steel Corporation.

The earnings of the United States Steel Corporation for the first quarter of 1916 reached the record-breaking figures of \$60,713,624, and that, too, after providing for repairs and maintenance to plants and interest on bonds of subsidiary companies. This was the greatest quarter in the history of the company. Moreover, the earnings are increasing at an accelerating rate, the March earnings having exceeded those for February by \$2,600,000, and the January earnings by nearly \$4,000,000. The earnings for the quarter were nearly \$9,500,000 larger than for the first quarter of 1915, and were over \$48,000,000 in excess of the earnings for the first quarter in 1914.

These figures indicate something of the phenomenal prosperity in the iron and steel trade, especially in the latter, for pig-iron making is not yet keeping full pace in profitable operation with the steel interests. Chairman Gary of the Steel Corporation reports that the Corporation is practically booked full, with orders for the balance of this year and to a considerable extent into 1917.

Every indication in the trade points to a long period of phenomenal prosperity in iron and steel.

The Locke Cotton Mills, Concord, N. C., will increase capital and improve plant.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

THE SOUTH AND SOUTH AMERICA.

Southern Railway and Affiliated Lines Will Send Agent to Develop Commerce.

With the purpose of extending their efforts to promote the sale of Southern-made goods in South American countries, the Southern Railway, the Queen & Crescent Route and the Mobile & Ohio Railroad will send their South American agent, Charles Lyon Chandler, on a tour this summer. He will visit Brazil, Argentina and Uruguay, where opportunities are now described as particularly bright for the extension of American trade because of the European war. He made a similar trip last year.

Mr. Chandler will interview merchants and buyers and investigate trade opportunities generally so as to be able to advise Southern merchants and manufacturers where and how to place their products to the greatest advantage. While on this trip his services will be at the disposal of Southern firms who are anxious to have specific trade opportunities investigated, and he will also be glad to assist and promote their trade in any way possible. His address is 322 James Building, Chattanooga. No charge will be made for this service, the work being part of the Southern's general scheme for developing the South.

"There is a particularly good market for Southern cotton goods in Argentina and Uruguay at present," declares Mr. Chandler, "and over \$10,000,000 worth of cotton fabrics, piece goods, both bleached and colored, could be sold to Argentina alone from our Southern States. We only export \$28,000,000 worth of cotton piece goods annually, while our exports of automobiles amount to \$33,000,000. The South Americans are now looking to the United States for manufactured goods and other products necessary in their every-day life, and there is no reason why the South should not get a full share of the business if it is sought in the proper way."

San Antonio & Northwestern Railroad.

The San Antonio & Northwestern Railroad Co., capital \$125,000, has been chartered in Texas to build the line proposed by Dr. A. A. Luther of San Antonio and associates from that city northwest to Rock Springs, Tex., about 125 miles, and finally to San Angelo, Tex., altogether 240 miles. H. H. Fielder, engineer, 419 Frost Building, San Antonio, says that the route will be via the Medina Lake, a large artificial reservoir; Medina City and Bandera to Rock Springs. Thence it will be probably via Sonora and Eldorado to San Angelo. Engineers have been in the field for 60 days locating the route, and have advanced as far as Bandera, 60 miles. All the figures covering the first section of 25 miles have been received and are being compiled for submission to the parties financing the plan. It is probable that construction will begin at San Antonio within two months.

Continuing, Mr. Fielder says that since the Medina Lake was created, about three years ago, by the Pearson Syndicate, which erected a great dam across the Medina River 30 miles out of San Antonio, the people of the city have desired a railroad to the place. The lake is about 16 miles long and four miles wide, and the opportunities for boating and sailing are unusual. Furthermore, the entire territory to be traversed by the road is desirable. A considerable tonnage will be provided by the livestock, mohair and wool industries, as well as by agriculture. Hearty financial support is being received, and the people are anxious for the coming of railroad facilities.

Dr. Luther is president of the railroad company.

Statistics of Texas Railroads.

The statistical report of the Texas Railroad Commission covering the fiscal year ended June 30, 1915, has been issued. The only new railroad which began business during the twelve months was the Motley County

Railway, nine miles long from Matador Junction to Matador, Tex. There are 110 companies recognized as common carriers, and their aggregate gross earnings were \$1,899,359 less than during the previous year, but operating expenses were \$4,162,409 less, so that there was a gain of \$2,263,050 in net operating earnings. The ratio of operating expenses to gross earnings was 79.97 per cent., as compared with 82.30 per cent. the previous year, although not quite so low as the year before. Ton-mile revenue was 9.95 mills, as compared with 10.60 mills the previous year. There was a considerable increase of safety surrounding railroad operation, the total number killed during the year being 292, while the year before it was 364. More than two-thirds of the persons killed were trespassers; only seven were passengers. Lumber is the principal commodity carried by the Texas lines; it provides more than 12 per cent. of the total freight. Grain is next, with more than 11½ per cent.; coal, coke and lignite third, with 10½ per cent.; stone, sand, etc., fourth, with considerably more than 9½ per cent., while cotton furnishes only a little more than 5 per cent. of the total. Taxes paid by the roads amounted to \$4,899,364. It is said that 52 of the lines displayed deficits as the result of the year's operations.

Will Redeem Charleston Northern Bonds.

The Seaboard Air Line has called for payment June 15 all of the outstanding first mortgage bonds of the Charleston Northern Railroad, which was the last extension of the Carolina, Atlantic & Western Railway, and enabled the Seaboard to enter Charleston. It was taken into the system several months ago. There are \$2,325,000 of these bonds, and their retirement was provided for by the sale of Seaboard first and consolidated mortgage 6 per cent. bonds last year.

Interurban Between Tampa and Lakeland.

E. J. Binford of Binford & Reed, attorneys and counselors at law, Hampton Building, Tampa, Fla., writes the MANUFACTURERS RECORD that the interurban railway which it is proposed to build from there to Lakeland, Fla., will be 33 miles long via Gary,

Mango, Seffner, Dover, Plant City, Youmans and Winston. It will serve a rich territory in the country as well as the several cities and towns. Around Plant City is one of the best trucking regions in Florida. This place has a population of 3500, Lakeland has 8500 and Tampa 75,000. The other towns mentioned range from 50 to 300 population. Franchises have been secured everywhere excepting at Lakeland, which will grant one within three weeks.

Legal notice of intention to incorporate will be given immediately and survey is already made, while the engineers have been at work for three or four weeks completing all preliminary arrangements for beginning construction. Plans have been perfected for an early start.

Richmond Union Station Site.

The officers of the Richmond, Fredericksburg & Potomac Railroad, as authorized by the directors at their meeting March 17, have conferred with the officers of the Atlantic Coast Line and they have both agreed that the proposed union station at Richmond, Va., shall be constructed on the Hermitage site, as proposed some time ago. The improvement will cost approximately \$2,000,000. Plans have been made. The suggestion that the station be built at the intersection of Broad street, Roseneath road and the Belt Line was abandoned because it was believed the location would be too remote from the city's center for general convenience.

Coal and Coke Shipments Gain Heavily.

The Pennsylvania Railroad Co. announces that during March there was carried on its lines east of Pittsburgh and Erie a total of 6,680,235 tons of coal and coke, or 1,745,561 tons more than during the same month of last year. The tonnage was distributed thus: Anthracite coal, 1,120,000 tons; bituminous coal, 4,203,171 tons coke, 1,357,004 tons, with increases, respectively, thus 305,188,959 and 901,480,472 tons.

From the first of the year to March 31 there was carried on the same lines a total of 19,626,029 tons of coal and coke, or 5,080,721 tons more than in the same period of last year. This included anthracite coal, 3,228,

NEW UNION STATION AT MACON, GA.



MACON UNION STATION.

Construction of the union station at Macon, Ga., for the use of the Central of Georgia, the Southern and the Georgia Southern & Florida railways is in full swing, as shown by the accompanying illustration. All of the foundation and the steel work for the passenger station proper has been finished, and the brick and concrete work is being rapidly advanced. The Macon Terminal Co. was organized for the construction of the station and other facilities.

The station will be 245 feet long by 85 feet wide. A

concourse extends the entire length of the structure. A subway leads to the train sheds, which are about 1000 feet long and of steel and concrete construction.

Alfred Fellheimer of New York is the architect, and he is also supervising the erection of the station. J. Henry Miller, Inc., of Baltimore, is the general contractor. The Virginia Bridge & Iron Co., Roanoke, Va., furnished the structural steel, amounting to about 1200 tons.

518 tons, increase, 756,240 tons; bituminous coal, 12,719,170 tons, increase, 2,947,900 tons; coke, 3,678,330 tons, increase, 1,376,572 tons.

Rock Island May Spend Millions for Repairs.

Jacob M. Dickinson, receiver of the Chicago, Rock Island & Pacific Railway, who, according to a report from Fort Worth, has just completed an inspection trip over the Texas lines of the system, is quoted as saying that he believed the committee in charge of financing for the stockholders would consent to an expenditure aggregating from \$25,000,000 to \$30,000,000 for necessary repairs, as the track and roadbed especially require attention, and it would be wise to improve them without delay so as to avoid greater expenditures later. It is understood that a large part of this sum would be expended in the South.

\$40,180,000 of Bonds Approved.

The stockholders of the Chesapeake & Ohio Railway at their meeting last week approved the proposed issue of \$40,180,000 of 5 per cent. 30-year convertible bonds which, as previously reported, will be underwritten by a syndicate organized by Kuhn, Loeb & Co. and the National City Co. of New York. The proceeds are to be used to retire \$33,000,000 of the railway company's notes and to provide additional working capital. The proposed issue of \$55,000,000 of additional capital stock was also approved, making the authorized capitalization \$155,000,000.

\$700,000 to Be Spent.

The receivers of the International & Great Northern Railroad—James A. Baker and Cecil A. Lyon, Houston, Tex.—have been authorized to spend \$700,000 for improvements, which will include \$200,000 for shops and tracks at San Antonio, \$155,000 for equipment and \$345,000 for ballasting.

New Vice-President Elected.

E. L. Smithers has been elected second vice-president of the Louisville & Nashville Railroad, succeeding Wm. J. Dickinson, deceased. His office will be at 71 Broadway, New York, which is also the headquarters of Henry Walters, chairman of the board.

New Equipment, Etc.

Southern Railway's order, placed with the Pullman Company, Chicago, covers 45 passenger cars, 13 passenger and baggage cars, 5 club cars, 19 baggage and express cars and 10 baggage and mail cars. The company is also reported to have ordered 6 Mikado and 8 switching engines from the Baldwin Locomotive Co., Philadelphia.

Birmingham Southern Railroad is reported in the market for 50 hopper cars, 25 flat cars and 15 box cars.

San Antonio & Northwestern Railroad Co. is in the market for rails and other equipment necessary for the construction of a standard-gauge line. Dr. A. A. Luther, San Antonio, Tex., is president.

Alabama Company, Birmingham, has ordered a six-wheel locomotive from the Baldwin Works.

Cincinnati, New Orleans & Texas Pacific Railway has ordered 12 all-steel passenger cars, 3 all-steel passenger and baggage cars, 1 steel cafe observation car, 9 locomotives and 1500 box cars. It has sold 1,800,000 of 4½ per cent. equipment trust bonds, but about 13½ per cent. of the cost of equipment will be paid in cash.

Kansas City Southern Railroad is reported to have awarded a contract for 10 locomotives.

Oklahoma Railway, Oklahoma City, is contemplating purchase of 3 interurban electric cars.

Alabama Great Southern Railroad has issued \$1,100,000 of 4½ per cent. equipment trust bonds to partly pay for \$1,313,500 of new equipment consisting of 6 Mikado freight locomotives, 4 eight-wheel switching locomotives, 2 Mountain type passenger locomotives, 8 all-steel passenger cars, 3 all-steel baggage cars, 2 all-steel dining-cars and 750 steel center sill box cars. The balance of the purchase price will be paid in cash.

Terminal Railroad Association of St. Louis is reported in the market for 10 or 12 eight-wheel switching locomotives.

Missouri Pacific Railway has ordered 14 Santa Fe type locomotives from the Baldwin Locomotive Co.

Norfolk & Western Railway has ordered 20 Mallet type locomotives from the American Locomotive Co., New York.

Seaboard Air Line has ordered 3 dining-cars and 2 observation dining-cars from the Pullman Company.

The report that the Chesapeake & Ohio Railway had placed a contract for 5 dining-cars is denied.

International & Great Northern Railroad will purchase 2 dining-cars, 5 passenger cars and 4 mail and baggage cars, all of all-steel construction and costing about \$155,000.

Goldsboro Electric Railway, Goldsboro, N. C., has bought 2 summer cars from the Electric Equipment Co.

Lewisburg & Ronceverte Railway Co., Lewisburg, W. Va., is reported to have bought a double truck, center entrance, combination car from the G. C. Kuhlman Car Co., Collinwood, O.

Maysville, Ky.—Mason county votes June 24 on \$200,000 bonds to construct roads.

Richmond, Va.—City plans issuing \$50,000 bonds for sidewalk and alley improvements.

West Point, Va.—City votes May 23 on \$30,000 bonds to construct sidewalks, etc.

Wichita Falls, Tex.—City votes May 22 on \$40,000 bonds to pave streets.

Contracts Awarded.

Bartlett, Tex.—City awarded \$57,000 contract to construct vertical fiber brick paving.

Bryan, Tex.—Brazos county awarded \$170,000 contract for 85 miles of road.

Bryan, Tex.—City awarded \$94,000 contract for paving residence streets.

Clanton, Ala.—Chilton county awarded \$12,000 contract for 13 miles of road construction.

Clarksdale, Miss.—City awarded contract for 7000 feet of sidewalks, 1500 square feet of crossings and 290 feet of curb and gutter.

Columbus, Miss.—Lowndes county awarded \$42,000 contract for constructing 14 miles of highway.

El Dorado, Ark.—City awarded contract for 26 blocks of concrete paving to cost \$34,500.

Lake City, Fla.—City awarded \$30,000 contract for 21,000 square yards of vitrified paving.

Lockhart, Tex.—Caldwell county awarded contract for three miles of highway.

Pawnee, Okla.—City awarded contract for 5500 square yards of brick paving and 1300 linear feet of curb.

Salisbury, N. C.—Rowan county awarded contract for 10 miles of highway.

Selma, Ala.—Dallas county awarded contract for six miles of gravel roads.

Starke, Fla.—City awarded \$27,000 contract for street paving.

Contracts to Be Awarded.

Arcadia, Fla.—De Soto county receives bids until May 2 for 561,740 square yards of rock construction.

Arcadia, Fla.—De Soto county receives bids until May 2 for 390,620 cubic yards of road grading.

Bradenton, Fla.—Manatee county receives bids until May 24 for grading 18 miles of road and grading and surfacing 28 miles with sand asphalt.

Columbus, Miss.—Lowndes county opens bids May 10 for 14½ miles of macadam road.

Denton, Md.—Caroline county receives bids until May 9 for 10,000 square yards of concrete surfacing.

Dunn, N. C.—City receives bids May 1 for 25,000 square yards of sheet asphalt.

Gulfport, Miss.—Harrison county receives bids until May 1 for 73 miles of road.

Jasper, Tenn.—Marion county receives bids until May 12 for 30 miles of grading, 15 miles of macadam and 13 miles of resurfacing.

Knoxville, Tenn.—Knox county receives bids until May 3 for 10 miles of grading and macadamizing.

North Wilkesboro, N. C.—City invites bids for 4000 square yards of bituminous macadam.

Pittsburg, Tex.—City receives bids until May 1 for 9715 square yards of pavement, 3460 linear feet of curb, etc.

Rutledge, Tenn.—Grainger county receives bids until May 10 for 60 miles of grading and 45 miles of macadam.

West Union, W. Va.—Doddridge county asks bids until May 12 for 19 miles of roads.

Wilson, N. C.—City receives bids until May 11 for 40,000 square yards pavement and alternate bids on 100,000 square yards.

Volusia County, Florida, Awards Road Contracts for Over \$500,000.

In following letter to the MANUFACTURERS RECORD J. C. Cook, chief engineer for J. B. McCrary Company, Atlanta, Ga., advises of award of road contracts in Volusia county, Florida, totaling over \$500,000:

"In the Deland-Lake Helen district contracts to the amount of \$300,610.76 was awarded the Southern Clay Manufacturing Co. of Chattanooga, Tenn., for 3½-inch Dunn wire-cut lug brick grouted, laid on sand foundation. The majority of these roads will be 9 feet wide,

with 2x10-inch wood edging and 3 feet of shell or rock shoulders on each side.

"All culverts and bridges will be of a permanent type. All bridges will be reinforced concrete. This covers practically all of the roads on the Deland-Lake Helen district, except a small mileage on which will be used either shell or modified asphalt. Contracts for this construction will not be let for the next 60 days.

"In the Halifax Special Road and Bridge District, for the main road leading from St. John's county line to the line between the Halifax Special Road and Bridge District, which road passes through Ormond, Daytona and along the Halifax River, the contracts were awarded to F. G. Proudfoot of Chicago and Tampa for asphaltic concrete on a shell or rock base. Thickness of surfacing, 2 inches. The total amount of this contract is \$236,543.15.

"The road from Daytona to Deland was not awarded in the Halifax Special Road and Bridge District. Award will probably be made for this at the regular meeting of the board on the first of May. This road will be built of brick, grouted, 9 feet wide, with 3 feet of shell shoulders on either side."

Preventing "Bleeding" of Creosoted Paving Blocks.

Announcement is made that the special complaint against creosote blocks for wood paving has been overcome through a process developed at the Forest Products Laboratory maintained by the United States Government at Madison, Wis.

The opponents of wood paving have used in their arguments the fact that with certain conditions of treatment the pavement is liable to "bleed" during hot weather. By this term is meant that the oil oozes from the blocks and forms a black, sticky mass over the entire street. This is, of course, annoying to residents along such streets, and the Forest Products Laboratory has been investigating the problem with a view to preventing "bleeding." A process has been perfected whereby blocks treated with creosote and exposed to the direct rays of the sun on some of the warmest days, or even when placed in an oven where a temperature of 212 degrees Fahrenheit is maintained, remain perfectly dry. It is expected that this process will be adopted generally.

American Road Builders to Meet in Boston in 1917.

The board of directors of the American Road Builders' Association at a recent meeting decided to hold its fourteenth annual convention and eighth national good roads show in Mechanics' Hall, Boston, Mass., during the week of February 5, 1917.

North Carolina Good Roads Meeting.

The annual convention of the North Carolina Good Roads Association will be held in Wilmington, N. C., June 20, 21 and 22.

Dredging Contract Bids Will Be Wanted at Tampico.

The La Corona Oil Co., Freeport & Mexican Oil Co., East Coast Oil Co., International Oil Co. and Mexican Gulf Oil Co. are having surveys made preliminary to dredging a channel to give 26 feet of water for 11 kilometers above the town. This work will also include five or six turning-basins.

H. Carrington of the Freeport Mexican Oil Co. is engineer in charge, and expects to be ready to ask for bids about May 10.

\$250,000 Kentucky Coal Company.

Two thousand acres of coal land in Pike county, Kentucky, will be developed by the Kentucky By-Products Coal Co. This is a new corporation chartered with a capital stock of \$250,000, and its incorporators are Z. T. Vinson, Donald Clark, E. P. Frost, E. M. Watts and A. E. Bush, all of Huntington, W. Va.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Notes on Lumber Trade South, as Viewed in New Orleans.

New Orleans, La., April 24—[Special.]—Representatives of nine of the larger retail lumber dealers' associations of the Middle West and South were entertained in New Orleans Saturday, Sunday and Monday by the Southern Pine Association as a feature of the tour which these visitors and others are taking through the Southern mills.

The entertainment in New Orleans was altogether social save for moving picture demonstrations of pine lumbering and lumber milling given in the Gold Room of the Grunewald.

Represented at the conference were delegates from the Northwestern Lumbermen's Association of Iowa and Minnesota; the Nebraska Lumber Dealers' Association; the Retail Lumber Dealers' Association of the State of Indiana; the Southwestern Lumbermen's Association of Missouri, Kansas and Oklahoma; the Illinois Lumber Dealers' Association; the Ohio Association of Retail Lumber Dealers; the Lumbermen's Association of Texas; the Wisconsin Retail Lumber Dealers' Association, and the Michigan Lumbermen's Association.

In all over 50 lumbermen, many of them with their wives, are being shown all that the Southern Pine Association can show them of the manners, habits and customs of New Orleans, as well as of the detail and the carefulness with which the pine lumbering business is now organized.

Three major topics were informally discussed:

1st. The proper handling and care of lumber in retail yards and sheds.

2d. The plans of the yellow pine manufacturers for branding lumber and timbers.

3d. The advertising campaign being conducted by the association and the suggested "follow up" work to be done by dealers, including the plans and literature furnished consumers.

W. J. Haynen, chairman of the grading committee of the association, presided over the conferences. W. G. Hollis, who arranged the program, submitted the suggestions outlined at the March 20 meeting of retail dealers' association secretaries held in Chicago.

Lumbermen returned from Dallas, where they attended the meeting of the Texas Lumbermen's Association, agree that the meeting marked notable advance in the nation-wide campaign for closer relationship between the lumber manufacturers and the lumber retail dealers and distributors.

There were over 700 registrations at the convention, and the suggestions by H. S. Hackett, forester of the trade extension department of the National Lumber Manufacturers' Association, that "lack of co-operation is the biggest contributing factor in business failure," seemed to appeal strongly to the entire gathering.

For the third week in succession shipments are running a trifle ahead of current orders from the reporting Southern pine mills, but the available rolling stock is still so scant that the mills remain over 22,000 carloads behind their commitments.

The orders for the week ending April 14, as reported April 18, ran 4998 cars, this being ahead of the two previous weeks narrowly, but under the first three weeks of March.

The shipments were 5023 cars, this being an increase of 300 cars over the previous week.

Stock committed but unshipped totals 450,489,060 feet.

Lumbermen are still striving through the association to obtain more cars in order that their stocks may be reduced for the summer months, and the retailers are increasingly insistent that they be supplied.

Little or no appreciable relief is in sight, however, for though the number of cars is now 900 per week more than early in March, the supply is not yet much over the demand for current needs.

The Southern Pine Association committee on sales and distribution met in Memphis Monday, April 17, presided over by Harry T. Kendall.

A tentative program was discussed for the proposed three-day session of a School of Salesmanship to be

held in St. Louis June 26, 27 and 28. The attendance of 200 salesmen has been promised. Further meetings of the committee will perfect the plans.

Thursday, April 20, the transportation committee of the Pine Association, sitting in Memphis, resolved that a uniform charge of \$5 for reconsigning be charged. The reason advanced was that the application of this charge would tend to minimize the shipment of transit cars and thus increase the utility of equipment.

Pine lumbermen from the Alexandria (La.) district gather in Alexandria Tuesday, April 25, for an annual session and to receive reports on the planned activities of the general association as it concerns better grading and more efficient salesmanship.

A strict effort is being made to win the approval of the boards of supervisors of the Mississippi Gulf coast counties to the proposal to pave the model highway soon to be constructed between Biloxi and Pass Christian with wood block instead of cement or brick.

The Gulf coast papers are carrying advertisements, and stereopticon views of roads paved with the block are to be exhibited to the supervisors, who are to hear the lumbermen during the week of April 24-29.

A. G. T. Moore, traffic manager of the Southern Pine Association, has been made assistant secretary, succeeding E. E. Myers, resigned.

Northern Lumber Manufacturers to Develop 52,000 Acres of Mississippi Timber.

Extensive lumber operations in Wilkinson county, Mississippi, are planned by Illinois and Wisconsin timbermen, according to statements sent to the MANUFACTURERS RECORD as follows:

The Foster Creek Lumber & Manufacturing Co. of Madison, Wis., organized with a capital stock of \$1,500,000, will operate in Mississippi and owns 52,000 acres of timber lands in Wilkinson county, on the Yazoo & Mississippi Valley Railroad. The general offices will be in Madison, Wis.

A double band mill, with resaw, costing between \$300,000 and \$400,000, will be established in Wilkinson county, Mississippi, during the summer and fall. It will cut on an average of 30,000,000 feet a year, according to present estimates. The mill site is on the Yazoo & Mississippi Valley Railroad, and the promoters of the new enterprise intend to build a model town around it. The 52,000 acres owned by the company are covered with a heavy growth of virgin yellow pine, with here and there patches of hickory and other hardwoods, and an ample supply of timber for many years' run of the mill at 30,000,000 feet per annum is assured.

Officers have been elected by the new corporation as follows: President, Fred M. Stephenson, Chicago, Ill.; vice-president, Edward J. Young, Madison, Wis.; treasurer, A. E. Proudfoot, Madison, Wis.; secretary and general manager, George L. Stephenson, Milwaukee, Wis.

The president of the company is a son of Isaac Stephenson, Marinette, Wis., former United States Senator from Wisconsin, and a lumberman of international note. Another son, Grant T. Stephenson, is a heavy stockholder. The secretary and general manager, Geo. L. Stephenson, is a nephew of the former senator, and has been identified with the Southern lumber industry for many years, having built several large mills in Louisiana and Mississippi and for the last year or two representing extensive Southern timber interests, with offices in Milwaukee. Edward J. Young is a member of the Brittingham & Young Company, Madison, wholesale lumbermen, and the treasurer, Mr. Proudfoot, is president of the First National Bank of Madison and a large stockholder in various timber, logging and lumbering concerns in the South and Southwest.

Lumber Shipments from Pascagoula.

Pascagoula, Miss., April 21—[Special.]—There has been an extraordinary increase of export business at this point over last year.

March, 1915, only four vessels cleared from this port carrying 1,180,000 square feet of lumber, and March 1916, the clearances were 12 vessels and 5,447,000 square feet of lumber, an increase of 300 per cent. in the number of vessels cleared and an increase of more than 400 per cent., of nearly fivefold, in the amount of lumber shipped.

Lumber men inform the writer that the outlook for the lumber trade was never better and that they could

sell all that they can cut, but they were embarrassed for the want of bottoms. The vast majority of vessels formerly engaged in the lumber traffic are busy carrying war materials, and freight rates being consequently high, they, like every other commodity, are governed by the law of supply and demand.

Mr. M. E. Turner, president of the Vinegar Bend Lumber Co., and also of the Alabama & Mississippi Railroad, was in this city this week and informed the writer that the material for the "overhead crossing of the Alabama & Mississippi over the New Orleans, Mobile & Chicago Railroad at Evanston" had already been transmitted to that point and that the road would be completed into Pascagoula on or before the last of May. It was also stated that it was the intention of the Alabama & Mississippi to begin at once the work of extending its line from Leaksville, in Green county, Mississippi, to Laurel and Ellisville, Miss. Laurel is one of the largest lumber manufacturing points in this State. This extension of the Alabama & Mississippi will carry it through "the Blood-geet timber," a tract of some 2,000,000 acres, which has never been touched by the axe of the lumberman, and which conservative estimates state will cut 10,000 square feet to the acre. Others place the estimate as high as 15,000. It has already been pointed out in the MANUFACTURERS RECORD (1913) that the small timber and timber wastage on this tract will supply material for some half dozen paper mills, such as is at Kreola, Miss., for a generation yet to come. Mr. Turner stated that as soon as the Alabama & Mississippi had completed its line, all the lumber export business of the Vinegar Bend Lumber Co. and of other manufacturers near the line would be made through the port of Pascagoula.

The city of Pascagoula is busy improving its public landing-place or docks just south of the Louisville & Nashville Railroad. Ballast from ships is being used as a filler and groups of creosoted piling are placed every 50 feet along the front of 800 feet as mooring points for ships loading there with lumber.

Flooring Blocks of Creosoted Wood.

Creosoted wood blocks, already extensively used as paving material for city streets, have been coming into use as flooring for the last four or five years, according to the Forest Service, United States Department of Agriculture. Durability, noiselessness under heavy traffic and sanitary properties, the chief advantages of the wood block for paving, give it also special value for making floors, especially for use where heavy trucking, the moving of heavy machinery or other severe use makes the maintenance of floors a serious problem.

Wood block is now widely used for flooring in factories, warehouses, machine shops, foundries, various types of platforms, wharves and docks, and for such miscellaneous purposes as hotel kitchens, hospitals, laundries and slaughter-houses. Possibly one of the oddest of these uses is for the floors of wild animal cages and runways. Notwithstanding the recent increase in the use of wood block for these purposes, it is believed that the growth of this industry will be even more rapid in the future. These floors are well liked by the workmen because they are easy on the feet.

Most of the blocks for these floors are now made of Southern yellow pine, which is highly susceptible of treatment with creosote oil.

Logging Congress to Meet at Asheville.

The Appalachian Logging Congress will hold its regular spring session at the Hotel Langren, Asheville, N. C., on Friday and Saturday, April 28 and 29, where the congress was organized last January. Its object is the promotion of economical logging by companies operating in the hardwood sections of the Southern Appalachian region. W. B. Townsend of the Little River Lumber Co., Townsend, Tenn., is president; Fred A. Perley of Perley & Crockett, Black Mountain, N. C., vice-president; Henry Grinnell, Champion Lumber Co., Crestmont, N. C., secretary-treasurer; executive board members, George N. Delaney, Kentucky Lumber Co., Williamsburg, Ky.; P. C. Thede, Champion Lumber Co.; S. M. Wolfe, W. M. Ritter Lumber Co., Asheville, N. C.; Frank Buell, Graham County Lumber Co., Asheville, N. C. Its membership as well as official roster contains representatives of all the large lumber-

ing interests of the Southern Appalachians. The occasion for the association is shown by the prompt response in the form of membership from all the leading companies in the section from which membership was desired.

Cottonwood for Box Board.

The Gulf City Hardwood Co. of Mobile is reported to have made a large contract with a veneer plant to supply it with cottonwood for the manufacture of boxes for cartridges and shells. The company recently shipped five carloads of cottonwood boards as a result of experimentation which is said to have demonstrated that cottonwood is found altogether satisfactory as a substitute for white pine in the manufacture of packing cases. The wood is light, pliable and soft, yet tough, and is much cheaper than white pine. The Gulf City Hardwood Co. owns an extensive acreage of cottonwood near Jackson, Ala. Cottonwood is worth about \$19 at the mill.

\$7,500,000 Zinc Development Enterprise.

Plans for West Virginia and Missouri Properties.

Extensive zinc properties in West Virginia and Missouri will be developed by the United Zinc Smelting Corporation, Clarksburg, W. Va., incorporated with a capitalization of \$7,500,000 and main offices in New York. Officers have been elected as follows: William Kenefick, president, Kansas City, Mo.; Russel A. Cowles, vice-president; Arthur Day, vice-president and treasurer, both of New York. The company will control (the stock ownership) the Pearlman Company, the Clarksburg Zinc Co., with large zinc smelter and refining plant using natural gas for fuel, and the Kenefick Zinc Corporation, which controls (through subsidiaries) a large output of zinc concentrates in the Joplin district. These plants include 3648 retorts with annual capacity 30,000,000 pounds of spelter, refining plant with annual capacity 15,000,000 pounds of spelter, pottery plant with daily capacity 300 retorts, power plant, etc. Plans are being prepared for the construction of two additional retort blocks of 912 retorts each. The Kenefick company mines and mills lead and zinc concentrates in the Joplin and Cartersville districts of Missouri, controlling five properties which include five large zinc mill, and plans are being prepared for constructing a sixth mill. The United Zinc Smelting Corporation is having plans prepared for the immediate construction of an acid plant for manufacturing by-products in connection with the Kenefick properties.

\$5,000,000 Life Insurance Company for New Orleans.

The Pan-American Life Insurance Co. of New Orleans (capital, surplus and reserve \$2,800,000) has acquired control of and will absorb, it is stated, the Meridian Life Insurance Co. of Indianapolis, Ind., capital, surplus and reserve about \$2,500,000. This will give New Orleans in the consolidated company a concern with over \$5,000,000 capital, surplus and reserve and about \$38,000,000 of insurance on its books, which is expected to exceed \$40,000,000 by the end of the year. Crawford H. Ellis of New Orleans is president of the Pan-American, and Arthur Jordan of Indianapolis of the Meridian. An office will be maintained at Indianapolis in addition to the home office at New Orleans. E. G. Simmons is vice-president and general manager.

Iron in Walls of Light Station Stands Test.

The United States Bureau of Lighthouses reports that a recent examination of the expanded metal reinforcement made of pure iron for the walls of Galveston Jetty Light Station, which has been in position since prior to the hurricane of August 16-17, 1915, and the greater portion of which is uncovered, shows that it has not been impaired by this exposure. Little or no deterioration has occurred, and the iron is probably in as good condition as when installed. When purchasing, it was specified that the expanded metal should be made of pure iron instead of steel, as is usually the case.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, all items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

119,000 Pounds of Yarn Wanted.

The L. H. Gilmer Company, G. Walker Gilmer, Jr., manager of sales, Tacony, Philadelphia, Pa., writes to the MANUFACTURERS RECORD as follows: "We are at present figuring on contracts which will require the immediate purchase of the following yarn on tubes: 13,000 pounds of 40's/2, 35,000 pounds of 20's/2, 17,000 pounds of 30's/2, 24,000 pounds of 12's/2 and 30,000 pounds of 8's/3; all to be white except the 9's/3, on which a good grade of tinged stock can be used. This business will be closed within the next 10 days."

17,000 Spindles and 400 Looms Additional.

Steele's Mills, Rockingham, N. C., manufacturers of print cloth, will add 17,000 spindles and 400 looms, increasing equipment to 40,000 spindles and 1000 looms. In this connection the company will build a weave shed suitable for 1000 looms. The company wires the MANUFACTURERS RECORD that it has made no contracts or fully decided upon plans for the enlargement, but is considering these details.

8608-Spindle Cotton-Yarn Mill.

Cotton-yarn production from 5440 spinning spindles and 3168 twister spindles is the purpose of S. B. Tanner, K. S. Tanner and associates of Rutherfordton, N. C. They will build a cotton mill equipped with the spinning machinery mentioned. The mill building will be 250 feet long by 75 feet wide.

Loudon Mill's Addition.

A three-story 200x60-foot addition, of brick mill construction, costing \$25,000, will be built by the Loudon (Tenn.) Hosiery Mills. Plans and specifications are being prepared by W. H. Sears of Chattanooga. The company was mentioned in Marsh as contemplating the erection of a 5000-spindle hosiery yarn mill.

\$100,000 Underwear Knitting Mill.

Capitalized at \$100,000, the Tennessee Mills of Knoxville, Tenn., has been chartered by C. L. Leonhardt, S. W. Duggan, T. A. Wright, C. M. Tyson and Irvin S. Saxton. This company will remodel buildings it has secured and will install an equipment of machinery for the manufacture of knit underwear.

12,000-Spindle Yarn Mill.

The Groves Mill, Gastonia, N. C., has been incorporated to build a 12,000-spindle cotton-yarn mill. Its incorporators are L. F. Groves, secretary-treasurer of the Arlington and Flint mills; H. H. Groves, L. L. Jenkins, J. R. Withers and W. C. Withers.

\$30,000 Hosiery Mill Additions.

A three-story annex costing \$20,000 and an additional four-story building costing \$10,000, both of brick construction, will be erected by the High Point (N. C.) Hosiery Mills.

\$500,000 Cloth Waterproofing Plant.

The waterproofing of fabrics and the manufacture of same into garments is the purpose of the Skinner

Waterproofing Co. of Gulfport, Miss. This company has been incorporated with a capitalization of \$500,000 by W. A. Skinner and M. R. Bruckner, both of Paducah, Ky. It will construct a brick building and install an equipment of machinery for the waterproofing and manufacturing processes.

\$50,000 Mercerized Towel Mill.

A \$50,000 mercerized towel weaving company has been chartered at Salisbury, N. C. It is the Marsh Cotton Mills, and the incorporators are T. B. Marsh, F. J. Murdoch and associates. The company will erect a 118x40-foot brick mill building costing \$3000 and install an equipment of looms with electric power drive, costing \$14,000.

Textile Notes.

W. H. Heffner, Bolivia, N. C., is reported as to establish a knit goods mill.

L. D. Tyson, president of the Knoxville (Tenn.) Cotton Mills, is reported as to establish a knit goods mill.

The Merck-Hetrick Manufacturing Co., Gainesville, Ga., will greatly increase the capacity of its hosiery knitting mill.

Floyd M. Murphy, general manager of the Chickamauga Knitting Mills, Chattanooga, Tenn., is reported as to establish a knit underwear mill.

Carolina Cotton Mills, Maiden, N. C., has been incorporated with a capitalization of \$100,000 by B. M. Spratt, Jr., W. L. Heffner, Jr., and J. S. Campbell.

The Hillside Cotton Mills, Lagrange, Ga., will build an addition to weave shed, having engaged the Dallis-Roberts Company of Atlanta as the architect.

The Jonesboro (Ga.) Manufacturing Co., mentioned in April as to build a plant, has final plans and specifications. Its mill will be 100x50 feet, inside brick construction, with frame dyehouse. This company has ordered 32 knitting machines and will increase to 100. Its plant will bleach and finish, dye with sulphur black, etc., the daily capacity to be from 500 to 600 dozen pairs of hose. Plans by T. W. Woodhaus, Villa Rica, Ga.

The Swift Manufacturing Co., Columbus, Ga., has plans and specifications for its addition. Its mill addition will be four stories high and 332 feet long by 106 feet 4 inches wide, while the warehouse will be three stories high and 231 feet long by 100 feet wide, both with brick walls and gravel roof, costing \$90,000. The MANUFACTURERS RECORD of April 20 announced that the company had awarded contracts for these buildings to Frank A. Pierce of Columbus, besides having ordered the 20,000 spindles, accompanying looms and other machinery to be added.

Production of Fuller's Earth on the Increase.

The fuller's earth industry in this country in 1915 will show a healthy condition, according to reports received by the United States Geological Survey. The industry is comparatively recent, the first production having been reported in 1895 from Florida, though fuller's earth was discovered a few years earlier in Arkansas. The production in 1915 was 47,901 tons, valued at \$489,219, which was an increase of 6920 tons and \$85,573 over 1914. On the other hand, the imports of fuller's earth, which were 19,441 tons, valued at \$152,493, in 1915, decreased 5536 tons and \$42,590 compared with 1914. The marketed production in 1915 was therefore more than twice as great as the imports, and the value of the domestic earth marketed was more than three times that of the imported earth. The average price per ton of American earth was \$2.37 greater than that of the imported. Fuller's earth is now used principally in clarifying mineral and vegetable oils and fats and greases, though it derived its name from its original use, the fulling of cloths, for which it is still employed in a small way. Six States reported production of fuller's earth for 1915—Arkansas, California, Florida, Georgia, Massachusetts and Texas. The State leading in production is Florida, which reported nearly 75 per cent. of the output for 1915. Georgia was second and Arkansas third.

BIG OIL COMBINATION IN OKLAHOMA.

Sinclair Oil Company Sells \$16,000,000 of Bonds.

The Sinclair Oil Refining Co. has just closed a deal with leading New Yorkers to take an issue of \$16,000,000 of bonds. This company has been organized by Harry F. Sinclair of Tulsa to take over the Cudahy Refining Co. of Coffeyville, Kans., and Muskogee, Okla.; the Chanute Refining Co. of Chanute, Kans., and Cushing, Okla.; the Milliken Refining Co. of Vinita, Okla.; the Sinclair-Cudahy Pipe Line Co.; the Sinclair Oil & Gas Co., etc. The properties include the Milliken refinery with daily capacity 6000 barrels of oil, a gasoline factory, a wax plant, the two Chanute refineries with daily capacity 6000 barrels of oil, the Cudahy refinery with daily capacity 3300 barrels of oil, the 112-mile Chanute oil-pipe line, the 661-mile Milliken oil-pipe lines, etc. Organization and development details will soon be announced. The new company's properties will include a group of producing oil wells in the Cushing, Stone Bluff, Cleveland, Bird Creek, Healdton and other producing fields in Oklahoma and Kansas. In the Cushing field the daily average of production is about 4700 barrels; in Healdton district it is 4700 barrels also, and the other districts have a daily production as follows: Stone Bluff, 2500 barrels; Sapulpa, 600 barrels; Bald Hill, 500 barrels. Interests and leaseholds exceed 140,000 acres, with more than 500 producing oil wells and 9 gas wells, the net daily production of crude oil being 13,000 barrels. The various refineries have a daily output exceeding 20,000 barrels. It is understood that Harry F. Sinclair will be president of the new Sinclair Oil Refining Co., and that W. H. Ison of Coffeyville will have active charge of the refineries.

DOMESTIC POTASH PRODUCTION IN 1915

United States Government's Report on the Progress of the New Industry—Experimental Work Under Way.

Potash salts were produced in the United States in 1915 to the value of \$342,000, according to the United States Geological Survey. Though this figure is of interest as showing a small beginning in the domestic potash industry, it becomes of little importance if the total needs of the country are considered, for it represents a quantity consumed in less than a week under normal conditions.

The imports of refined potash salts in 1915 were 76,141 long tons, or slightly more than 25 per cent. of those in 1913, the latest normal year of importation. Imports of the potash fertilizers, kainite, manure salts and double manure salts, amounted to 20,427 long tons, or about 3 per cent. of those in 1913. Taking all the potash salts together, the imports in 1915 were about one-tenth of those under normal conditions.

In the Survey report on the subject, W. C. Phalen states that potash was recovered within the United States as a by-product from the manufacture of Portland cement at Riverside, Cal. By-product potash from this source has yielded a considerable revenue, owing to the abnormally high price for these salts, and in obtaining it two other purposes have been served—first, the saving of additional material to be converted into cement, and second, the elimination of the dust nuisance. At Riverside a discharge of 100 tons of dust a day over the surrounding orange groves has been prevented.

Potassium sulphate from alunite was first placed on the market late in October, 1915, by the Mineral Products Corporation at Marysville, Utah. The production has not been large so far, owing to the incidents connected with a pioneer enterprise of this character. Though certain foreign deposits of alunite have been worked for potash alum, this is the first recorded yield of potash salts as such from alunite. The product is of high grade.

The plant of the Potash Products Co. of Omaha, Neb., was established in the spring of 1915 at Hoffland, near Alliance, in the northwestern part of the State. During about half of the year the company obtained potash salts from the brine of an alkaline lake in this region.

In addition to output from the above sources, pot-

ash was marketed in 1915 from kelp obtained along the Pacific coast.

Experimental work on the production of potash salts from different sources was active during the year, and in places this activity has been succeeded by the construction of plants. Operations are in progress at Searles Lake and at Keeler, on the shores of Owens Lake, Cal. It is reported that one company is erecting a plant near Great Salt Lake and that another will soon be started at the south end of the lake. The by-product bittern at solar evaporation plants on San Francisco Bay has also received some attention.

Another plant has been planned for the extraction of potash salts and alumina from alunite at Marysville, Utah.

Manufacturers of Portland cement, having had their attention directed to a possible revenue from by-product potash, will not be slow in thoroughly investigating their raw material. Already the Security Cement & Lime Co., near Hagerstown, Md., is installing a plant for the recovery of potash salts.

Great activity has been manifested in experiments for the recovery of potash from the silicate rocks, such as feldspar and leucite, from the mica sericite, and from greensand. The expense involved in obtaining potash salts from these sources, together with the uncertainties with which manufacturers will be confronted and the keen German competition likely to be met at the close of the war in Europe, have tended to discourage chemical engineers and capitalists. However, in many laboratories researches have been in progress, some of which, according to reports, offer prospects of profitable commercial development if feldspars and other potash-rich rocks in sufficient quantity and purity can be found and made available.

A small quantity of potash salts was probably produced from these silicate rocks and minerals during 1915 and found its way into mixed fertilizers without intermediate refinement.

Miners of Phosphate Rock Urged to Organize.

P. J. NORFLEET, Newberry, Fla.

A year or two ago I wrote a letter to the different miners of phosphate rock in Florida, especially to the hard-rock miners, which letter was published in the MANUFACTURERS RECORD and other papers, relative to forming an association of the phosphate miners over the State, with a view to co-operation, but evidently at that time the miners did not share my views. Since then, owing to the disturbance in the Balkan States and later the war in Europe, conditions have changed to such an extent that I believe the miners will agree with me, in that the phosphate business has been dead and worse than buried, for we have had to carry the load just the same, with no business for over two years, and at present very little or any hope of any changes for the better any time soon. So now it is high time the miners should take matters seriously and prepare themselves with a life preserver for the future. Let us come together for an association under which we can prepare ourselves for co-operation with a view of producing a product that is necessary to the advancement of agriculture over the entire world. To do this, instead of an independent program of mining and marketing our product, we should get together, form an association, prorate the amount of business each mine should do according to the mines now in existence, such proportion to be the amount each miner may be adapted to, according to the mines and tonnage possessed.

A concrete example of the good such methods accomplish is shown in every other industry. We have no association, no regular channels to market our products through, no scale of service, no regular method of mining and at present no business.

A movement to better mining conditions is not sentimental, altruistic nor philanthropic, but a straightforward effort to improve the miner's earning capacity, and as a consequence his buying ability.

The answer to this question is to restore mining of phosphate rock to its proper position, and in doing this not only teaching through the association better methods of mining, but what is more important, better methods of marketing.

Organize for more honest and equitable economic distribution. Any scheme that does not take this vital point into consideration must and will prove a failure. Insure a fair return for money invested in the phosphate rock, and we will get the business.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Fla., Bradenton.—Manatee county will construct 10 concrete and steel or concrete, steel and wood bridges in Sarasota-Venice Road and Bridge Dist.; bids until May 24 (noted in March for earlier date); \$40,000 available; Chas. A. Browne, Dist. Engr., Sarasota, Fla.; Robt. H. Roess, Clerk County Comms., Bradenton. (See Machinery Wanted—Bridge Construction.)

Fla., Kissimmee.—Osceola county, Dist. 1, 2, 4 and 5, voted \$250,000 bonds to construct bridges and roads. Address County Comms. (Noted in Mar.)

Fla., St. Petersburg.—St. Petersburg & Gulf Ry., Oren Kem, Auditor, 4th and Central Aves., will construct bridge across Coffee Pot Bayou.

Ga., Woodbine.—Camden County Comms., St. Marys, Ga., will construct bridge across Satilla River at Woodbine; cost \$15,000 to \$20,000.

Ky., Bardstown.—Carlisle county let contract Adams & Belote, Mayfield, to construct 4 concrete bridges; plans by the State. (See Ky., Mayfield.)

Ky., Carlisle.—Nicholas County Comms. will construct steel bridge across Licking River at Blue Licks; concrete substructure; center pier in 2 spans of 121 ft. 11 in.; invited bids until May 17.

Ky., Edmonton.—Barren County Comms., Glasgow, Ky., will construct bridge over Beaver Creek on road leading to Edmonton; cost \$2500 to \$3000; engineering by State Road Dept. (See Machinery Wanted—Road Machinery.)

Ky., Mayfield.—Graves County Court contract, lately noted let to Adams & Belote, Mayfield, included construction of 24 concrete culverts on State-aid road; cost of the Graves and Carlisle county bridges, about \$9000.

Md., Denton.—Caroline County Comms. will construct 150-ft.-span steel-concrete bridge; bids until May 9; Harry Waldorf, Roads Engr. (See Road and Street Work and Machinery Wanted—Road Construction.)

Mo., St. Joseph.—Buchanan county contemplates constructing 75 concrete culverts and bridges from 4 to 40-ft. span; fills average 1500 cu. yds.; R. L. Cargill, County Highway Engr.

N. C., Asheville.—Buncombe County Commissioners let contract Roanoke Iron & Bridge Co., Roanoke, Va., at \$271 to construct steel bridge across Hominy Creek; span 80 ft.; weight 15 tons.

Tenn., Chattanooga.—Southern Ry. (W. H. Wells, Ch. Engr. Construction, Washington, D. C.) let contract Chickamauga Quarry & Construction Co. of Chattanooga to construct concrete viaduct over tracks at Oak St.

Tenn., Chattanooga.—Cincinnati, New Orleans & Texas Pacific Ry. (C. Dougherty, Ch. Engr., Cincinnati, O.) let contract Chickamauga Quarry & Construction Co., Chattanooga, to construct concrete viaduct over tracks on Riverside Drive.

Tex., Burnet.—Burnet County Comms., Burnet, and Llano County Comms., Llano, Tex., let contract at \$19,500 to construct bridge across Colorado River at Stephens Rd. (Burnet county lately noted to have voted \$10,000 bonds.)

Tex., Cameron.—Milam County Comms. let contract Jess T. Thach of Cameron at \$2500 and \$1400, respectively, to construct 2 steel bridges, 1 on San Gabriel River at Sanandoe Crossing and other on Turkey Creek near Thorndale.

Tex., Freeport.—Houston & Brazos Valley R. R., Geo. C. Morris, Receiver, let contract to Mr. Giltheroe, Houston, Tex., to construct bridge between Velasco and Freeport; length 500 ft.; 150-ft. through truss; 250-ft. swing draw; 120-ft. through truss; 18 ft. clear roadway, combination railroad and highway; concrete abutment piers; 3 intermediate piers, creosoted piling; cost \$100,000 to complete; E. B. Cushing, Ch. Engr. Southern Pacific Ry., Houston, Consol. Engr. (Lately noted.)

Tex., Marshall.—City, H. O. Wilson, Mayor, let contract to A. W. Frazier, St. Louis, Mo., to construct reinforced concrete viaduct; C. E. Smith, Consult. Engr., 2075 Railway Exchange Bldg., St. Louis. (Bids lately noted on structure 1036 ft. long, 24-ft. roadway, 6-ft. sidewalk; filled approaches 350 ft. long.)

Tex., Orange.—St. Louis & San Francisco R. R., V. K. Hendricks, Engr., St. Louis, Mo., will expend \$7000 for improvements along river front; will bulkhead trestle which parallels river and will fill in behind it.

Tex., Rockdale.—Milam County Comms., Cameron, Tex., will construct bridge over San Gabriel River at San Andre Crossing.

Tex., San Angelo.—Tom Green County Comms. will repair 6 bridges.

CANNING AND PACKING PLANTS

Ark., Texarkana.—Joe Kirby, J. F. Hartin and H. W. Davis will establish cannery of 300 cans capacity.

Fla., Miami.—Louis Fine purchased site 60x125 ft. on which to erect 2-story building; equip to can crawfish, mackerel and other fish; manufacture clam chowder and bottle various kinds of soups; cost \$20,000.

Ga., Statesboro.—Company is being organized to establish packing plant; \$15,000 capital subscribed; temporary officers: A. J. Mooney, Prest.; Glenn Bland, Secy.; W. G. Raines, Treas.

Tenn., Maryville.—American Products Co., capital \$25,000, Incptd. by Clay Cunningham, Clyde T. West, F. C. Gibbons and others; acquires Maryville Canning Co.'s plant.

Va., Buchanan.—Old Dominion Packing Co. will build addition; 2 stories; 30x65 ft.; brick.

CLAYWORKING PLANTS

Ala., Anniston.—Brick.—G. W. Elchelberger & Sons Co., lately noted Incptd., capital \$30,000, continues plant of G. W. Elchelberger & Sons, manufacturers of fire and face brick; no equipment needed.

Ala., Fairhope.—Brick, Tile, etc.—Clay Products Co. (lately noted Incptd., etc.) will erect building of mill construction; manufacture brick, tile, building blocks; Frank Brown, Prest.; A. M. Troyee, V. P.; W. B. Martin, Secy. (See Machinery Wanted—Shovel (Steam).)

S. C., Columbia.—Clay.—Columbia Clay Co., capital \$300,000, Incptd.; Edw. H. Titus, Prest.; Eugene Evans, V. P.; T. J. Evans, Jr., Secy. Treas.

Tenn., Lonsdale.—Bricks, etc.—Lonsdale Brick & Pottery Co., capital \$25,000, Incptd. by L. D. Morris, A. C. Morris, Henry Hudson and others; acquires old Lonsdale Brick Co.'s plant.

Va., Hopewell.—Bricks.—G. K. Hundly may establish brick works; daily capacity 20,000. (See Machinery Wanted—Brick Machinery.)

Va., Norfolk.—Tile.—Vanderberry Tile Co., capital \$10,000, Incptd.; R. N. Vanderberry, Prest.; H. W. Roberts, Secy. Treas.

Va., Quantico.—Bricks, etc.—Quantico Brick Co. let contract to L. M. Johnson, Carey, O., to erect ordinary-construction building; cost \$8000; will manufacture brick, fireproofing and drain tile; daily capacity bricks, 60,000. (Machinery contract noted let in Feb.)

Va., Petersburg.—Brick and Tile.—W. G. Burke, care of Atlantic Coast Realty Co., is interested in organization of company to establish brick and tile plant; cost \$5000; Contr., Thos. E. Saunders, 107 Tabb St., Petersburg. (See Machinery Wanted—Brick and Tile Machinery.)

COAL MINES AND COKE OVENS

Ky., Pike County.—Kentucky By-products Coal Co., capital \$250,000, Incptd. by Z. T. Vinson, Donald Clark, E. P. Frost, E. M. Watts and A. E. Bush of Huntington, W. Va.; develop 3000 acres coal land.

Tenn., Knoxville.—Starbourne Coal Co., capital \$25,000, Incptd. by Alex. Bonnyman, S. A. Lewis, W. J. Donaldson and others; has Remy Coal Co.'s property; expended \$25,000 for improvements.

Tex., Ft. Worth.—Hesley Coal Co., capital \$10,000, Incptd. by W. J. Hesley, W. C. Guffey and J. B. Wray.

W. Va., Beckley.—Tolbert Smokeless Coal Co. (noted Incptd. in March, capital \$50,000) organized; Joe L. Smith, Prest.; W. W. Hume, V. P.; B. Elliott Tolbert, Secy. Treas.; C. P. Phillips, Jr., Mgr. (See Machinery Wanted—Cars (Mine), etc.)

W. Va., Charleston.—Lester Fork Coal Co., capital \$75,000, Incptd. by S. B. Avis, F. A. Avis, N. F. Young and others.

CONCRETE AND CEMENT PLANTS

Fla., Cocoa.—Building and Paving Blocks.—Hydraulic Stone Co., capital \$20,000, organ-

ized to manufacture hydraulic rammed concrete stone building and paving blocks.

S. C., Charleston.—Cement Products.—Charleston Cement Products Corp., capital \$5000, chartered to manufacture Cementite fireproof roofing; P. L. Bissell, Jr., Prest.; T. W. Thornhill, V. P.; W. C. Wilbur, Secy. Treas.

COTTON COMPRESSES AND GINS

Ala., Attalla.—Carlisle Gin Co., capital \$35,000, Incptd. by N. B. Ware and E. B. Johnson.

Ala., Sheffield.—Cooke & McTyer will rebuild cotton compress reported burned (including 2500 bales cotton) at loss of \$125,000.

Ark., McGehee.—Merchants & Farmers' Gin Co. organized; Geo. B. Ewing, Prest.; I. Friedman, V. P.; Sam Wolchansky, Treas.; will build cotton gin. (Lately noted Incptd. with \$12,500 capital.)

La., Lake Charles.—J. S. Thomson and J. D. Carter will build cotton ginnery, to consist of 3 gins, each with 70 cells; pneumatic system of handling cotton; ordered equipment. (Noted in Feb.)

Miss., Strayhorn.—C. L. Graham and others will build cotton gin.

Miss., Tupelo.—People's Compress & Storage Co., capital \$50,000, Incptd. by W. R. Humphrey, R. L. Taylor and others.

N. C., Charlotte.—Elba Mfg. Co. will increase capacity of plant; install ginning equipment; erecting seedhouse.

Okla., Altus.—Interstate Compress Co. let contract B. F. and C. M. Davis, Fort Worth, Tex., to build compress; reinforced concrete; cost \$40,000; 5½-acre site; replace burned plant. (Noted in Dec.)

COTTONSEED-OIL MILLS

Okla., Ada.—Pontotoc County Cotton Oil Co., capital \$100,000, organized to build cottonseed oil and peanut mill.

Tex., Merkel.—Merkel Commercial League is promoting erection of cottonseed-oil mill.

DRAINAGE SYSTEMS

Fla., Tallahassee.—Internal Improvement Board, F. C. Elliot, State Drainage Engr., invites bids until May 29 for improvement South New River Canal from junction with Miami Canal to junction with North New River Canal, improvement Miami Canal between lock and junction with South New River Canal, and for construction Dania cut-off work, to include removing rock from canal to provide 10 ft. depth and 60 ft. width; will survey for Little River Canal project; foregoing improvements based on recently announced sale of \$3,000,000 bonds for continuation Everglades drainage project. (See Machinery Wanted—Drainage Construction.)

Md., Cambridge.—Cambridge & Blackwater Canal Co. will be Incptd.

Miss., Cleveland.—Deesons Drainage Dist. canals will be constructed; Bolivar County Drainage Comms. (J. C. Brooks, Wm. Connell and J. B. Bond) receive bids until May 3; main ditch 9.2 mi., 241,630 cu. yds. excavation; 3 laterals, 16,000, 40,000 and 23,000 cu. yds. excavation, respectively; W. W. Boone, Engr., Cleveland. (See Machinery Wanted—Drainage.)

Tex., Angleton.—Brazoria county, Angleton Drainage Dist. No. 1 will construct drainage system to include excavation of 550,000 cu. yds. dirt for ditches, clearing and snagging of streams and construction of bridges and street drains; Drainage Comms., H. N. Perry, Chrmn., receive bids until May 19; T. A. Munson, Engr. (See Machinery Wanted—Drainage System.)

Tex., Dallas.—Dallas County Drainage Dist. No. 1 voted \$110,000 bonds to construct levee to protect land on west side of Trinity River from overflow; length 14 mi.; height 17 to 18 ft.; protect 7500 acres. Address County Comms.

ELECTRIC PLANTS

Ala., Opelika.—Columbus Power Co., Columbus, Ga., contemplates constructing power-transmission system from Goat Rock hydroelectric plant to Opelika, 22 mi.; cost \$90,000 to \$90,000.

Ark., Arkansas City.—Lambe & Denmarke Light & Water Co. contemplates improvements to include installation of 120 H. P. crude-oil engine, 100 K. W. generator with

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

accessories, electric meter, centrifugal pumps of from 300 to 400-gals.-per-min. capacity, motor to drive pump, 6-in. cast-iron pipe and 1000 lbs. of wire; cost \$30,000.

Ark., Bentonville.—City is having plans prepared by Albert C. Moore, Engr., Frisco Bldg., Joplin, Mo., for electric-light plant; cost \$20,000.

Ark., Bentonville.—City is having plans prepared for improving electric-light plant and water-works; cost \$20,000; A. C. Moore, Engr., Frisco Bldg., Joplin, Mo.

Ark., Newport.—Newport Water, Light & Power Co., A. N. Walker, Mgr., applied for franchise to operate electric-light system. (Noted in Mch., to have increased capital from \$100,000 to \$125,000.)

Ark., Paragould.—Arkansas Light & Power Co., E. T. Reynolds, Local Mgr., will install three 200 H. P. boilers in electric-light plant; will soon install turbine.

Fla., DeFuniak Springs.—City votes May 2 on \$5000 bonds to extend electric-light system; C. E. Dowling, City Clerk. (Noted in Mch.)

Fla., Cocoanut Grove.—Cocoanut Grove Public Utilities Co., capital \$25,000, incptd.; Hugh M. Matheson, Prest.; T. H. Wyatt, V.-P. and Mgr.; H. C. Crawford, Secy.-Treas.; contemplates installation of electric plant; lately noted under Water-works. (See Machinery Wanted—Electric Plant.)

Ky., Cynthiana.—City contemplates installation electric-light plant. Address The Mayor.

Ky., Cynthiana.—City is considering construction of electric-light plant. Address The Mayor.

Ky., Kuttawa.—Cumberland Electric Co., capital \$3500, incptd. by B. W. Doorn, M. J. Beard, D. A. Doorn and W. M. Beard.

Md., St. Michaels.—City is reported as considering construction of electric-light system. Address The Mayor.

Md., Belair.—Belair Electric Co. contemplates constructing 11 mi. 3-phase transmission system.

Miss., Baldwin.—City, W. A. Stocks, Mayor, engaged Xavier A. Kramer, Magnolia, Miss., as Consult. Engr. for electric-light system and water-works improvements; plans and specifications will be ready in 30 days. (\$10,000 bonds lately noted voted.)

N. C., University.—J. B. McCrary Co., Engr., Atlanta, Ga., will receive bids in June for lighting and heating plant for University of North Carolina; estimated cost \$50,000.

Okla., Blackwell.—City voted \$10,000 bonds for electric-light extensions; plans and specifications being prepared by Benham Engineering Co., Oklahoma City; noted in Mch. (See Water-works.)

Okla., Alva.—City granted franchise for electric-light plant. Address The Mayor.

Okla., Moorland.—City will vote on \$10,000 bonds to build electric light and power plant. Address The Mayor.

Okla., Moorland.—City contemplates installing electric-light plant; cost \$10,000. Address The Mayor.

Tenn., Nolita.—Nolita Water Co. contemplates building electric-light plant.

Tenn., Nolita.—Nolita Water Co. is considering plans for installation of electric-light plant.

Tex., Ballinger.—City will purchase local electric-light plant. Address The Mayor.

Tex., Barstow.—Barstow Public Service Co. will install electric-light plant; 1000 H. P.; Engr., Tri-State Engineering Co., El Paso, Tex. (See Water-works.)

Tex., Floydada.—Texas Utility & Power Co. has 50-yr franchise for electric-light and power plant; cost \$8000.

Tex., Stockdale.—G. A. Burris will install electric-light plant.

Tex., Shiner.—City voted \$12,000 bonds to build or purchase electric-light plant. Address The Mayor. (Lately noted.)

Tex., Waco.—Texas Power & Light Co. will double capacity of plant; install 4 boilers, each of 600 H. P.; increase capacity from 6000 K. W. to 8000 K. W. to about 15,000 K. W.

Va., Richmond.—City plans \$50,000 bond issue for electric-light plant. Chas. E. Bolling, City Engr. (See Water-works.)

W. Va., Mount Hope.—Mount Hope Electric Power & Water Co. applied for franchise to construct electric-light system, etc. (See Water-works.)

W. Va., St. Marys.—Ernest Mallory of Parkersburg, W. Va., purchased electric-light system; is reported to establish ice and cold-storage plant in connection.

FERTILIZER FACTORIES

Md., Annapolis.—Legislature appropriated \$12,000 to build agricultural lime plant in Southern Maryland; Emerson C. Harrington, Governor.

FLOUR, FEED AND MEAL MILLS

Fla., Arcadia.—Thos. Gaskins, Jr., will build plant to hull and grind velvet beans, hull cow pens and rice, grind feed, grits and meal. (See Machinery Wanted—Feed and Meal Mills.)

Ky., Frankfort.—Frankfort Milling Co., capital \$30,000, incptd. by J. N. Moreland and others.

Md., Ellicott City.—C. A. Gambrill Mfg. Co. will rebuild flour mills reported burned at loss of \$200,000 to \$300,000 on stock, machinery and buildings; offices, 104-112 Commerce St., Baltimore.

Mo., North Kansas City.—Midland Milling Co. organized by Geo. Innes and Fred O. Shane of Philadelphia, Pa., and Jas. A. Innes of Eagle Grove, Ia.; purchased site with frontage of 725 ft. on which to build flour mill; initial daily capacity, 1200 bbls., to be increased to 2400 bbls.

Va., Waynesboro.—W. C. McComb may install plant to grind bone; 2½ to 5 tons per 10 hours. (See Machinery Wanted—Grinding Mill.)

FOUNDRY AND MACHINE PLANTS

Ala., Montgomery.—Cooking Stoves.—Economy Cooker Co., capital \$10,000, incptd. by E. J. Parker, N. P. Morrison and M. P. Jackson.

Ark., Little Rock.—Butter Separator.—Burlington Separator Co., 307 S. 3d St., Burlington

Turner to erect 33x70-ft. 1-story concrete building with glass front, brick walls and iron roof; blacksmith, machine and woodworking shops.

Va., Pulaski.—Pulaski Foundry & Mfg. Corp., R. Bunts, Jr., Prest.-Mgr., opens bids May 1 to construct two 40x130-ft. by 22-ft. high brick buildings; plans by Frank Stone; will install foundry and machine shop equipment; product, blast furnaces and mining machinery and general jobbing. (Lately noted.)

GAS AND OIL ENTERPRISES

Fla., Coconuts Grove.—Gas Plant.—Coconut Grove Public Utilities Co., Hugh C. Matheson, Prest., contemplates installation of plant to manufacture cooking gas. See Electric Plants. (See Machinery Wanted—Gas (Cooking) Machinery.)

Ky., Scottsville.—White Plains Oil & Gas Co., capital \$17,000, incptd. by Geo. G. Snowden.

La., Shreveport.—Oil Refinery.—Consolidated Oil Refining Co., St. Louis, Mo., will build oil refinery; daily capacity 2500 bbls.; cost \$60,000; F. B. and C. E. Grevenberg of Shreveport will be managers of Louisiana interests.

Oklahoma.—Purcell Oil & Gas Co., capital \$100,000, organized with Albert Hildebrandt (or Chas. H. Hildebrandt & Son, 19 W. Saratoga St.), Baltimore, Md., as Prest.; N. J. Purcell, V.-P. and Gen. Mgr., Hillsboro, Va.; R. Bruce Hamilton, Treas., Baltimore; develop 3000 acres oil lands in Atoka and Pittsburg counties. (Lately noted incptd.)

Okla., Ardmore.—Toltec Oil Co., capital \$100,000, incptd. by S. F. Haynie, J. A. Cotner and J. H. Mathers.

THE OFFICIAL PROPOSAL ADVERTISEMENTS

Appear This Week On Pages 80 and 81

Notices of bond sales, construction and improvement contracts to be let, equipment and supplies to be purchased, franchises offered, etc., inserted in this department bring bids from the most important bond buyers, investors, financial institutions, contractors, engineers, architects, manufacturers, and supply houses throughout the country.

Rate 20 cents per line per insertion.

The PROPOSAL department goes to press 9 A. M. Wednesday for the issue of the following day. If you cannot mail advertisement in time for any particular issue please wire copy by night letter.

Send for booklet of testimonial letters from public officials who have used the PROPOSAL department of the Manufacturers Record, for bond sales, construction work, etc.

Hington, Iowa, has not decided on location for plant lately reported contemplated; prefers to secure building already erected; when location is decided, will install foundry and machine-shop equipment and let contracts for pottery and woodwork; electrically operated machinery; may install own power plant; manufacture butter separators; capacity 1000 or more per month.

Ark., Siloam Springs—Blacksmith Shop.—Ed. McNair will erect brick building to be occupied by G. F. Neard as blacksmith shop; include machine shop.

Ga., Atlanta—Car Wheels.—Dixie Pressed Steel Wheel Co., capital \$100,000, incptd. by G. Bennington, C. R. Topping and D. K. Johnson.

Ky., Owensboro—Road Machinery, etc.—International Ditching & Road Machinery Co. increased capital from \$50,000 to \$200,000.

Md., Baltimore—Ship Castings, etc.—Noah-Wilson Co. will be organized by Robt. S. Noah, Annapolis, Md.; Andrew H. Wilson, 207 S. Monroe St.; John F. Merchant and Geo. L. Carson; plans to manufacture ship castings, machinery, hardware, etc.; develop plans for building submarine designed by Mr. Noah.

Miss., Laurel—Wood Reduction Retorts.—Free Stump Remover Mfg. Co. organized; Chas. Green, Prest.; B. A. Schneider, V.-P. and Mgr.; E. E. Ferrell, Secy.; each of Laurel; A. T. Ratliff, Treas.-Supt., Hattiesburg, Miss.; will manufacture retorts for reduction of pine stumps, knots and wood into crude oil. (See Miscellaneous Factories.)

S. C., Columbia—Machinery.—Carolina Machinery Co., capital \$5000, incptd. by E. W. Moise and Louise Moise.

Tex., Bonham—Blacksmith and Machine Shop, etc.—F. M. German & Son, S. Center and E. 3d Sts., let contract to Moyer &

Oklahoma, Blackwell.—Ocate Oil & Gas Co., incptd. by O. M. Swalm of Blackwell; Paul Buetow of Newkirk, Okla., and Wm. G. Russell of Chicago; capital stock \$100,000.

Oklahoma, Cushing—Oil Refinery.—Roxana Petroleum Corp., Tulsa, Okla., will build refinery with daily capacity 10,000 bbls. oil.

Okla., Marlow.—Marlow Oil & Gas Co., capital \$26,000, incptd. by T. T. Eason, W. O. Smythe and Nat Kendrick.

Okla., Marietta.—Regal Oil & Gas Co., capital \$25,000, incptd. by Ostide B. Haynes and Harriett B. Smith of Marietta and Beulah M. Munzrshelmer of Galveston, Tex.

Okla., Medford.—Medford Farmers' Mutual Oil & Gas Co. incptd. by O. V. Williams, R. J. Early, E. L. Fink and William Eulberg; capital stock, \$5000.

Okla., Muskogee.—Bottom Rock Oil Co., capital \$10,000, incptd. by Wm. C. L. V. Correy, W. F. Potter and H. P. Showalter.

Okla., Muskogee.—Laborers' Oil Co., capital \$10,000, incptd. by E. B. Brown, G. W. Harris, R. Treadaway and E. D. Staggs.

Okla., Muskogee.—Bottom Rock Oil Co., capital \$10,000, incptd. by Wm. C. L. V. Correy, W. F. Potter and H. P. Showalter.

Okla., Muskogee.—Consumers' Oil Co., capital \$16,500,000, organized to consolidate various oil companies, including Celestine Oil Co. of Muskogee and C. B. Shaffer interests; latter controls 25,000 acres oil land in Cushing field, refinery with daily capacity 8000 bbls. oil, 2 gasoline plants and 113 retail selling stations at various locations; Celestine company has 15 producing leases.

Okla., Oklahoma City.—Tanhauer Distributing Co. incptd. by George Barnett, John Sinopoulo and E. H. Cooke; capital stock, \$6000.

Okla., Oklahoma City.—Totem Oil & Gas Co., capital \$10,000, incptd. by E. N. Swan and G. C. Jensen of Oklahoma City and E. V. Crowell and A. B. Crowell of Wann, Okla.

Okla., Pocasset.—Pocasset Oil Co., capital

\$2500, incptd. by W. W. Clark, C. C. Martin, J. L. Minter and J. C. Miller.

Okla., Shamrock—Oil Refinery.—Roxana Petroleum Corp., Tulsa, Okla., is reported to build large oil refinery.

Okla., Tulsa.—B-B Mfg. & Drilling Co., capital \$6000, incptd. by John B. Merserey of Tulsa, H. U. Bartlett of Sapulpa and S. J. Mathews of Kansas City, Mo.

Okla., Tulsa.—Mazol Oil Co. incptd. by O. A. Wells, H. H. Wood, B. A. Randell, all of Muskogee, Okla., and Leo Bloch, St. Louis; capital stock \$50,000.

Okla., Tulsa.—Western Drilling Corp., capital \$10,000, chartered by E. Holley Poe, H. C. Rudinell and M. Reed.

Okla., Tulsa.—Gasoline.—Victor Gasoline Co. increased capital from \$50,000 to \$450,000.

Okla., Tulsa.—Richelle Oil Co. incptd. by H. E. Johnson, G. W. Johnson and Phillip Kates; capital stock \$16,000.

Okla., Tulsa.—Harvey Young Oil Co., capital \$10,000, incptd. by H. M. Young, M. E. Stanley and W. A. Thomas.

Okla., Tulsa.—Oak Oil Co., capital \$10,000, incptd. by W. S. Mowris, J. S. Warren and E. K. Childers.

Okla., Tulsa.—Foster Oil Co., capital \$10,000, incptd. by F. M. Foster and C. C. Herndon of Tulsa and J. B. Foster of Kansas City, Mo.

Okla., Tulsa.—Baltimore Oil Co., capital \$10,000, incptd. by Frank Barnes, L. D. Ladd and T. R. Laumann.

Okla., Tulsa.—Irlatone Oil & Gas Co., capital \$100,000, incptd. by J. H. Winemiller, Max Madansky and P. B. Sterling.

Okla., Tulsa.—Middlesex Oil Co., capital \$25,000, incptd. by E. R. Perry, J. H. Crocker and H. A. Gibson.

Okla., Tulsa.—Oil Refineries, etc.—Sinclair Oil Refining Co., authorized capital \$50,000,000, chartered by H. F. Sinclair and associates, latter being New York capitalists; plans merging enterprises, which include Cudahy Refining Co. of Coffeyville, Kans., and Muskogee, Okla.; Chanute Refining Co. of Chanute, Kans., and Cushing, Okla.; Milliken Refining Co. of Vinita, Okla., etc.; properties include Milliken refinery with daily capacity 6000 bbls. oil, gasoline factory, wax plant, etc.; also 2 Chanute refineries with daily capacity 6000 bbls. oil, Cudahy refinery with daily capacity 3300 bbls. oil, 112 mi. Chanute oil pipe lines, 661 mi. Milliken oil pipe lines, etc.; later will determine organization and development details.

Okla., Yale—Oil Refinery.—Yale Oil Refining Co., capital \$10,000, incptd. by I. A. Tull, W. E. Canfield and Roy Millis.

Tex., Abilene.—Burch Oil & Gas Co., capital \$11,000, incptd. by Geo. L. Paxton, Henry James and W. G. Swenson.

Tex., Houston.—Commercial Oil Co., capital \$50,000, incptd. by Jake Kahn, Herman Leiser and Max Davidson.

Tex., Houston.—Moonshine Oil Co., capital \$5000, incptd. by F. J. McCollum, Sam C. Judd and F. P. Eastburn.

Tex., Houston.—Irving Oil & Gas Co., John W. Maxey, Prest. and Gen. Mgr., has let contract for 3500-ft. well; purchased all necessary piping, etc. (Lately noted incptd. capital \$20,000.)

Tex., Houston.—Feldman-Blair Petroleum Co., capital \$25,000, incptd. by F. M. Blair, E. A. Elmen and A. Feldman.

Tex., Houston.—Ho-Tex Oil Co., capital \$15,000, incptd. by R. F. Butts, T. M. Clark and E. I. Kendrick.

Tex., Houston.—Humble Star Oil Co., capital \$20,000, incptd. by E. R. Johnson, R. F. Butts and O. B. Hoover.

Tex., Houston.—Laborers' Oil Co., capital \$7000, incptd. by E. B. Brown, G. W. Harris, R. Treadaway and E. D. Staggs.

Tex., Port Arthur.—Gulf Refining Co., Port Arthur and Pittsburgh, Pa., increased capital from \$1,500,000 to \$7,500,000.

Tex., San Antonio.—Triple Sand Oil Co. increased capital from \$42,800 to \$54,800.

Tex., Uvalde.—Uvalde Oil & Gas Co., capital \$250,000, incptd. by A. T. Brown, J. S. Timberlake and Geo. E. Brashears.

Va., Richmond—Gas Works.—City plans \$109,550 bond issue for mains and improvements to gas works. Chas. E. Bolling, City Engr. (See Water-works.)

W. Va., Charleston.—Sidney Oil & Gas Co., capital \$200,000, incptd. by A. G. Warnock and Oscar Nelson of Charleston, F. F. Curtze of Erie, Pa., and others.

W. Va., Harrisville.—Wave Oil Co. organized with J. E. Houke, Prest.; J. S. Brodin, V.-P.; John S. McKown, Secy.-Treas.; all of Parkersburg, W. Va.; will develop 400 acres near Harrisville.

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W. Va., Moundsville.—Koh Oil & Gas Co., capital \$25,000, Incptd. by Leon Klee, M. Bachenheimer, Sam Ohrenstein and others.

HYDRO-ELECTRIC PLANTS

Ala., Birmingham.—Alabama Power Co., James Mitchell, Pres., Equitable Bldg., New York, and F. H. Chamberlain, Gen. Mgr., Birmingham, announced selection site for steam-driven electric generating station to augment hydro-electric development at Lock 12; steam plant location is Bakers Creek, on Black Warrior River, 2 mi. from terminus Driftion branch Southern Ry.; soon begin construction this station and hydro-electric unit at Lock 12; has ordered machinery; extend transmission systems; steam plant develop 20,000 kilowatt and hydro-electric 22,000 H. P.; these plans involve investment of \$2,000,000. From Birmingham Mr. Mitchell wires Manufacturers Record: Warrior steam plant will have six 120 H. P. boilers, operating pressure 225 lbs., 100 degrees superheat; 20,000 K. W. turbo-generator; 5 underfeed stokers; type E underfeed stoker; jet condenser; brick and concrete construction building; brick stack; outdoor transformers and switching apparatus; plant designed for ultimate capacity 60,000 K. W.; Lock 12 extension will have 19,600 H. P. single runner turbine connected to 13,500 K. W. A. generator; Gen. Mgr. Chamberlain writes to Manufacturers Record, stating full details, as follows:

Add single-runner vertical turbine to Lock No. 12 equipment; rated capacity of this wheel at 68-ft. head is 19,600 H. P.; attached generator to be 13,500 K. W. A. capacity; thrust bearing; foundations for unit already in place; necessary to extend power-house to house this equipment; increase capacity Lock No. 12 to 90,000 H. P. Reserve steam plant main items: six 120 H. P. boilers; 20,000 K. W. steam turbo-generator; six underfeed stokers; LeBlanc jet condenser; power-house of brick and concrete construction, with brick stack, outdoor transformers and outdoor switching apparatus; plant designed to extend capacity to 60,000 K. W. (Noted in Mch. as planning \$3,000,000 immediate expenditure for additional developments, etc.)

Ala., Birmingham.—Bibb Lumber Co., capital \$4000, Incptd. by J. M. Gillespy, Jr., W. A. Hoechne and others.

Ala., Birmingham.—Marble Valley Timber Co., capital \$2500, Incptd. by W. G. Martin, C. G. Duffe and Marvin Randall.

Ala., Burnsville.—Geo. A. Blessed Lumber Co., Tuscaloosa, Ala., plans to erect mill.

Ala., Sanford.—David Gaines, Hodge Butler, Bud Butler and Bud Dillard will build sawmill; purchased several timber tracts.

Ark., Burdette.—Three States Lumber Co. is completing plans for erection of mill to replace burned plant; estimated annual capacity 20,000,000 ft.; has ordered machinery. (Noted in March.)

Ark., Sumter.—J. T. Pomeroy & Sons, representing Northern company, negotiating for site on which to build ice and cold-storage plant.

Tex., Barstow.—Barstow Public Service Co. will install ice plant of 100 tons daily capacity; Tri-State Engineering Co., Engr., El Paso, Tex. (See Water-works.)

W. Va., St. Marys.—Ernest Mallory of Parkersburg, W. Va., is reported to establish ice and cold-storage plant to connect with electric-light system.

IRON AND STEEL PLANTS

Ala., Anniston.—Steel Furnace.—Anniston Ordnance Co. will install second furnace, 6 tons; daily capacity 24 tons steel; ordered this equipment.

Va., Quantico.—Steel plant.—International Steel Plate Co., Thos. J. Shea, Pres., Portland, Ore., and Quantico, will build plant to manufacture oil and water tanks and steel piping; Quantico Co., Eldridge E. Jordan, Pres., Real Estate Trust Bldg., Washington, D. C., writes to Manufacturers Record: Dimensions of first unit of steel plant about 90x300 ft.; concrete and steel construction; equipment estimated to cost \$30,000; in view of pressing demand in shipbuilding industry, company considering enlarging preparatory to shipbuilding and is now bidding on tank vessels. (Quantico Co. recently mentioned in connection with plans for steel works, industrial city development, etc.)

LAND DEVELOPMENTS

Fla., De Funik Springs.—City votes May 2 on \$4000 bonds for cemetery improvements and \$2000 bonds for park improvements. C. E. Dowling, City Clerk. (Noted in Mch.)

Fla., Flamingo.—Wm. P. Smith of Miami, Fla.; Sam Untermyer of New York, and Francis E. Baker of Chicago purchased 12,000 acres Cape Sable territory east of Flamingo; land extends 9 mi. on ocean front.

and is 2 mi. deep; will develop and build townsite; engineers now preparing plans and specifications. Mr. Smith wires Manufacturers Record: No immediate plans for development.

Fla., Leesburg.—Treasure Island Nurseries will incorporate and increase capital to \$50,000; acquires E. H. Mote holdings, including Treasure Island, 3 Welkit nurseries, 1,000,000 citrus trees, 600 banana plants, cars, offices, etc.; has cleared and under cultivation 50 acres of Treasure Island's 115 acres; plans clearing 66 acres of much land for banana grove; other plans include thorough development of these properties; W. Schmidman, Pres.; Thos. M. Ray, Jr., V.-P. and Mgr.

N. C., Fletcher.—Wm. D. Sanford of Miami, Fla., purchased 300 acres near Fletcher and will develop as summer home colony for residents of Florida; reported to expend \$100,000 for improvements, to include lake, clubhouse, 20 residences, etc.

Tenn., Knoxville.—City votes Apr. 29 on \$50,000 bonds for parks and playgrounds. J. B. McCalla, City Engr.

Tex., Gonzales.—Interurban Townsite Co., capital \$50,000, Incptd.; acquired townsites at Oak Forest, Mount Thella and Willow Springs, each consisting of 150 acres; J. M. Dausett, Pres., Gonzales; W. M. Pouncey, V.-P., Smiley, Tex.

Va., Petersburg.—Edge Hill Park Corp. chartered with \$50,000 capital; W. J. Rahilly, Pres.; John R. Beck, V.-P.; C. L. Thomas, Secy.; J. J. Nelms, Treas.

Va., Richmond.—Bruton Land Corp., Room 11, Real Estate Exchange, capital \$15,000, chartered; P. A. Green, Pres.; V. M. Green, V.-P.; E. L. Gary, Secy.-Treas.; developing Section A of Bruton Park, 250 lots; probably further development later; has graded and marked streets. (See Machinery Wanted—Portable Houses.)

LUMBER MANUFACTURING

Ala., Birmingham.—Bibb Lumber Co., capital \$4000, Incptd. by J. M. Gillespy, Jr., W. A. Hoechne and others.

Ala., Birmingham.—Marble Valley Timber Co., capital \$2500, Incptd. by W. G. Martin, C. G. Duffe and Marvin Randall.

Ala., Burnsville.—Geo. A. Blessed Lumber Co., Tuscaloosa, Ala., plans to erect mill.

Ala., Sanford.—David Gaines, Hodge Butler, Bud Butler and Bud Dillard will build sawmill; purchased several timber tracts.

Ark., Burdette.—Three States Lumber Co. is completing plans for erection of mill to replace burned plant; estimated annual capacity 20,000,000 ft.; has ordered machinery. (Noted in March.)

Ark., Ozark.—Ozark Lumber & Mfg. Co., capital \$11,000, Incptd. by G. P. Dowling, M. A. Smith, H. N. Hunter and others.

Ark., Brum.—J. H. Wood and E. R. Blair, Parkin, Ark.; Chas. Foster and C. L. Marilliot, Memphis, Tenn., will develop 6400 acres Crittenden county timber land; estimated to contain 49,000,000 ft. sawn timber, 6,000,000 ft. stave stock, several million ft. railway ties, etc.; let contract to Luther Wallin, Earle, Ark., to handle timber, requiring 4 yrs. for removal; will construct 8 mi. railway from near Hughes through timber.

Ark., Pine Bluff.—J. A. Schultz of Memphis, Tenn., contemplates establishing hard-wood mill.

Ark., Warren.—Southern Lumber Co., Fred Wyman, Pres., Minneapolis, Minn., is reported to enlarge plant.

Fla., Greenville.—Union Mfg. Co., J. T. Prince, Mgr., will erect planing mill to replace plant burned at loss of \$10,000, including lumber.

Fla., Jacksonville.—W. V. Gress, owner, will rebuild Morgan Lumber Co. mill lately noted burned; all machinery and lumber is supplied.

La., Oakdale.—Sabine River Lumber & Logging Co., Albert Deutsch, Pres., San Antonio, Tex., purchased 281,000,000 ft. yellow-pine and hardwood stumpage; has plans for mill.

Miss., Amory.—Pocahontas Lumber Co. is reported to build planing and saw mill.

Miss., Amory.—Gilmore-Puckett Co. is reported to build planing and saw mill.

Miss., Columbus.—Lowndes Lumber Co. incorporated by L. E. Schlehauf, S. G. Swain and others.

Miss., Glaston.—Foster Creek Lumber & Mfg. Co., capitalization \$1,500,000, organized; general offices at Madison, Wis.; Pres., Fred M. Stephenson, Chicago; V.-P., Edw. J. Young; Secy., A. E. Proudfit, both of Madison; Secy. and Gen. Mgr., Geo. L. Stephenson, Milwaukee; will develop 52,000 acres

Wilkinson county timber land on Yazoo & Mississippi Valley R. R.; will build town and mill plant; erect double band mill with resaw, costing between \$300,000 and \$400,000, for annual cut 30,000,000 ft. timber. (Foster Creek Lumber & Mfg. Co. lately reported having purchased 52,000 acres timber land and to build plant.)

Miss., Pachuta.—J. T. McKinnon, lately noted (under Miss., Enterprise) as purchasing property and to build mills, advises will develop timber in Clark and Jasper counties; will remove mill from Ellisville; building standard-gauge railroad from Beatrice; now operating 2 small mills (pending arrival and installation of the mill to be removed from Ellisville); needs no additional equipment; manufacture long-leaf yellow pine.

N. C., Asheville.—Kersbrook Development Co. purchased entire properties of Bee Tree Lumber Co., comprising 3000 acres virgin forest, and will develop; construct railroad into property to handle logging operation of from 9,000,000 to 10,000,000 ft. lumber; 1 sawmill now on property; will install 2 additional mills; develop part of tract as stock farm, plant commercial orchards and erect bungalows and summer hotel at Potato Ridge Gap.

N. C., Wilmington.—Chadbourn Lumber Co. will rebuild plant reported burned at loss of \$50,000.

N. C., Wilmington.—John Herring's sawmill.

S. C., Bishopville.—Bishopville Lumber Co. capital \$5000, Incptd. by L. J. Dixon and B. D. Parker.

Tenn., Butler.—Peter-McCain Lumber Co. of Bristol, Tenn., purchased \$50,000 tract of timber; will ship logs to band mill in Bristol.

Tenn., Kingsport.—R. C. Duff Lumber Co. will install band saw mill; purchased \$40,000 hardwood timber tract.

Tenn., Memphis.—Southeastern Lumber & Mfg. Co., capital \$10,000, Incptd. by Oscar H. Sample, John M. Carsey, Geo. T. Desloge and others.

Tenn., Nashville.—Smith-Murrell Log Co., capital \$15,000, Incptd. by F. G. Smith, R. L. Eastley, F. C. Stortor and others.

Tenn., Nashville.—T. H. Dunlap Lumber Co., capital \$25,000, Incptd. by T. H. Dunlap, M. M. Ransom, E. N. Ralston and others.

Va., Cornwall.—South River Lumber Co., R. F. Whitmer, Pres., 28 S. 2d St., Sunbury, Pa., will erect sawmill building by day labor; install bandsaw mill; construct logging railroad; daily capacity plant 50,000 ft. hardwoods, pine and hemlock. (Lately noted inptd., capital \$100,000.)

Va., Norfolk.—Logging Corp., capital \$5000, chartered; F. W. Culpeper, Pres.; R. H. Culpeper, Secy.-Treas.

W. Va., Huntington.—Huntington Hardwood Co., capital \$50,000, Incptd. by A. K. Kessler, A. J. Lacy and J. H. Henderson; will develop hardwood timber land in Guyandotte Dist. of Cabell county.

METAL-WORKING PLANTS

Fla., Key West—Metal Specialties.—C. A. Lantz, 1420 Petronia St., may establish plant to manufacture metal specialty he has invented. (See Machinery Wanted—Metalworking Machinery.)

Ga., Macon.—Nut-locks, etc.—Passmore, Davis Nut-lock Co., capital \$1000, Incptd. by A. H. Passmore, J. E. Passmore and J. D. Davis, Jr.

MINING

Ala., Gadsden—Manganese Iron.—W. F. Fullington, Gadsden, Ala., will develop manganese iron ore deposits.

Arkansas—Zinc.—Arkansas Zinc & Smelting Co., capital \$22,000, Incptd. by J. F. Farias, E. Madero and E. G. Hothorn, 42 Broadway, New York.

Ark., Black Rock—Zinc.—C. L. Kennard, Jonesboro, Ark., is reported interested in plan to develop zinc deposits.

Ark., Mountain View—Manganese.—J. E. King, A. A. Lancaster, B. S. Hinkle and others will develop manganese deposits.

Miss., Barney—Gravel.—Knight & Co., Memphis, Tenn., purchased gravel pit; will develop.

Mo., Joplin—Lead and Zinc.—Chas. Powers of Webb City, Mo., and others leased 20 acres lead and zinc land; will build mill.

Mo., Joplin.—T. O. Sandell Mining & Milling Co., capital \$15,000, Incptd. by T. O. Sandell, M. W. Norfleet and P. W. Hennessey.

Mo., Joplin.—Maumee Mining Co., capital \$15,000, chartered by John R. Griggs, G. E. Doane and V. C. Robbins.

Mo., Joplin—Zinc.—United Zinc Smelting Corp., 115 Broadway, New York, will control Kenebick Zinc Corp., controlling large output of zinc concentrates; plans immediate construction 2 additional retort blocks of 912 retorts each; also planning construction sixth large zinc mill; having plans prepared for immediate construction acid plant to manufacture by-products. (See W. Va., Clarksburg.)

Mo., Thoms Station, R. D. from Webb City—Lead and Zinc.—W. H. Redicker and others acquired Bull Durham mine and will develop; improve and enlarge concentrating plant, install jigs, etc.

Mo., Webb City—Lead and Zinc.—Chapman Bros. & Longacre will build 500-ton concentrating plant; cost \$30,000.

Okla., Cardin—Concentrating Plant.—Walker Mining Co., V. V. Grant, Secy.-Treas., Roll, Okla., let contract for 200-ton concentrating plant.

Okla., Quinton—Smelter.—Quinton Smelter Co., capital \$125,000, organized with J. G. Starr, Pres., Joplin, Mo.; will build 5-block smelter.

Okla., Roff—Glass Sand.—American Glass Casket Co., Oklahoma City, will mine glass sand near Roff and Hickory. (See Miscellaneous Factories.)

Va., Fredericksburg—Sand and Gravel.—Musterfield Sand & Gravel Co., 618 American National Bank Bldg., Richmond, Va., will develop 400 acres; has let contract for erection plant and for machinery; daily capacity 40 to 50 cars washed and sized gravel; L. O. Miller, Pres.; W. A. Davis, V.-P.; W. C. Mercer, Secy.-Treas.; Chas. J. Ruffin, Mgr. (In Nov. noted to build plant.)

Va., Elkhon—Manganese.—United States Manganese Corp. chartered by M. P. Dalton, W. R. Hopkins, H. H. Myers and others; will have New York offices; develop 1000 acres manganese; mine and smelt ore; leased blast furnace for producing ferro-manganese. (M. P. Dalton reported in November as to mine manganese, etc.)

Va., Evington—Manganese.—Otter River Mining & Manganese Co., Box 137 Lynchburg, Va., organized with John W. Woodson, Pres.; M. D. Haden, V.-P.; Joseph W. McCarron, Secy.-Treas.; will develop about 50 acres; has shaft 92 ft. deep; will sink 65 ft. deeper; lately noted inptd., capital \$50,000. (See Machinery Wanted—Pump (Mine).)

Va., Lipscomb—Manganese.—Manganese Products Co. organized; Walter U. Lawson, Pres.; Austin M. Pool, V.-P.; Jas. T. Parkes, Secy.-Treas.; offices at 35 Wall St., New York; controls 550-acre manganese property equipped with washing plant and several miles of railway connecting with Norfolk & Western R. R.; daily product 50 tons washed ore when mill repairs and improvements have been completed.

Va., Norfolk—Gravel.—Mississippi Gravel Co., capital \$250, Incptd. by Frank G. Almyra, B. and H. A. McKnight and others.

Va., Richmond.—Virginia Miners Development Co., capital \$30,000, chartered; A. S. Cragin, Pres.; S. Feinberg, Secy.; both of New York.

Va., Woodstock—Manganese.—National Carbon Co. of Cleveland, O., will develop manganese mines in Little Fort Valley, 7 mi. from Woodstock; sunk 2 shafts to depth of 200 ft.; install machinery, including pump to remove water from mines; J. Carson Adkerson of Lynchburg, Va., is in charge.

W. Va., Clarksburg—Zinc.—United Zinc Smelting Corp. chartered; capitalization, 600,000 shares without par value, offered at \$12.50 per share (\$7,500,000); Pres., Wm. Kenebick, Kansas City, Mo.; V.-P., Russel A. Cowles, 99 John St.; V.-P. and Treas., Arthur Day, 115 Broadway; both of New York; company's offices at 115 Broadway, New York; control, through stock ownership, Pearlman Co., Clarksburg Zinc Co. with large zinc smelter and refining plant, using natural gas as fuel, at Clarksburg and Kenebick Zinc Corp., which controls (through subsidiaries) large output of zinc concentrates of Joplin district; plants include 3648 retorts with annual capacity 30,000,000 pounds spelter, refining plant with annual capacity 15,000,000 pounds spelter, pottery plant with daily capacity 300 retorts, power plant, etc.; having plans prepared for immediate construction 2 additional retort blocks of 912 retorts each; Kenebick company mines and mills lead and zinc concentrates in Joplin and Carterville districts of Missouri, controlling 5 properties; latter include 5 large zinc mills and plans are being prepared for construction of sixth mill; annual capacity of Kenebick mines and mills between 25,000 and 30,000 tons concentrates; United Zinc Smelting Corp., having plans prepared for immediate construction of acid plant for manufacturing by-products.

MISCELLANEOUS CONSTRUCTION

Ark., Morrilton—Levee.—Conway County Levee Dist. No. 6, T. R. Wells, Chrmn., let contract to M. J. Cole, Jr., Little Rock, Ark., for 4½ mi. levee construction; about 90,000 cu. yds.; cost \$12,000; Robt. Stallings, Engr., State Bank Bldg., Little Rock. (Bids lately noted.)

Ga., Atlanta—Underpass.—C. M. Holland, P. A., Fulton county, 507 Courthouse, receives bids until May 19 to construct roadway beneath Southern Ry. tracks on S. Pryor St.; W. T. Winn, Chrmn. Comr. of Roads and Revenues; city, Fulton county and Southern Ry. lately noted to build underpass to be 700 ft. long, including approaches, 54 ft. wide and 14 ft. under tracks; city appropriated \$20,000, county \$15,000, to \$20,000 and railway \$5,000. (See Machinery Wanted—Underpass Construction.)

Tenn., Memphis—Coaling Stations.—J. W. Wortham, 712 Jefferson Ave., interested in plans for constructing railway coaling stations costing \$15,000 to \$40,000; reinforced concrete. (See Machinery Wanted—Concrete Construction.)

Tex., Aransas Pass—Wharf and Jetty.—Government let contract to Chas. Clark & Co., Galveston, at \$7000 to improve Picton wharf; also, specifications are ready for repair work to south jetty, to amount of \$25,000, and bids will soon be asked.

Tex., Fort Worth—Levee.—Tarrant county, Fort Worth Improvement Dist. No. 1, votes May 6 on \$85,000 bonds to complete and raise levees. Address County Comr. (Lately noted.)

Tex., Port Arthur—Pier.—City will repair pleasure pier lately acquired; has \$25,000 bonds. Address City Engr.

Tex., Port Arthur—Levees, etc.—City let contract H. J. Cox & Co. of Alexandria, La., at \$78,000 to construct levees, canals and laterals; \$100,000 available for pumping machinery and installation; J. F. Coleman, Consult. Engr., 920 Hibernia Bldg., New Orleans, La. (Call for bids lately noted.)

Tex., Texas City—Dock and Channel.—Southern Dock & Channel Co., capital stock \$6000, incptd. by J. R. Goodson, George L. H. Koehler and G. W. Oser.

Tex., Texas City—Dock and Channel.—Gulf Coast Dock & Channel Co., capital \$3000, incorporated by W. P. Tarpey, J. R. Goodson and G. W. Oser.

Va., Richmond—Creek Improvements.—City plans \$300,000 bonds for Shockoe Creek improvements. Chas. E. Bolling, City Engr. (See Water-works.)

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Contracting.—Robson Contracting Co., capital \$2000, incptd. by W. M. Robson, Mrs. W. M. Robson and Jas. Murray.

Ala., Birmingham—Engineering and Contracting.—E. F. Hetrick Engineering Co., 1502 Empire Bldg., organized; E. F. Hetrick, Prest. and Treas.; S. E. Thompson, V.-P. and Secy.; general building construction, making specialty of reinforced concrete buildings. (Lately noted incptd., capital \$10,000.)

Ala., Birmingham—Publishing.—J. Standish Clark Co., capital \$5000, incptd. by J. Standish Clark, M. J. Ramville and F. P. Ramville.

Ala., Mobile—Automobile Delivery.—Mobile Delivery Co., capital \$20,000, incptd. by S. J. Hahn, Thos. J. O'Connor, Robert J. Kearns and J. S. Watson.

Fla., Sebring—Printing.—Sebring Printing Co., capital \$3000, chartered; E. E. Skipper, Prest.; H. O. Sebring, V.-P.; Ed L. Hahn, Secy.-Treas.

Ga., Savannah—Shipping.—Bacon Shipping Co., capital \$50,000, incptd. by Devereaux Bacon and Hal H. Bacon.

Ky., Grayson—Publishing.—East Kentucky Journal Publishing Co., capital \$3000, incptd. by John M. Waugh and others.

Mo., St. Louis—Printing.—Goodwin Bros. Printing Co., capital \$50,000, incptd. by Jas. P. and Asst. E. Goodwill and R. Emmet Goodwin.

N. C., Barium Springs—Bottling.—Barium Springs Co. organized with John B. Ross, Prest.-Treas.; Chas. A. Williams, V.-P.; Jas. O. Gardner, Secy.; all of Charlotte, N. C.; acquires Barium Springs property and will develop; install system for handling water, improve hotel, etc.

Oka., Foraker—Grain Elevator.—Farmers' Grain & Elevator Co., capital \$5000, incptd. by D. J. Edwards and W. H. Metcalf of Foraker and D. C. Edwards of Oklahoma City.

Oka., Helena—Grain Elevator.—Farmers' Co-operative Assn. organized with capital

\$5000 by W. A. Glascock, A. B. Keahler and R. P. Bouse; will build grain elevator.

Oka., Muskogee—Lawn Mower Sharpening.—Leldecker Lawn Mower Sharpening Co., capital \$4000, incptd. by F. W. Leldecker, A. R. Doop, F. D. Wachsmuth and others.

Oka., Rosston—Grain Elevator.—Farmers' Elevator Co. organized; F. M. Hickman, Prest.; Wm. Kimball, V.-P.; W. R. Merriss, Secy.-Treas., will erect fireproof or ordinary construction elevator building, capacity 15,000 bus.; address building proposals to W. R. Merriss, Secy., Yelton, Okla. (Lately noted incptd., capital \$10,000.)

Tenn., Harriman—Road Contracting.—Harriman Cement & Stone Co., capital \$6000, incptd.; Horace M. Carr, Prest.; H. E. Carr, V.-P.; R. E. Rash, Secy.; T. A. Christmas, Mgr.; build roads; daily capacity 125 yds. crushed stone.

Tex., Abilene—Fulwiler Electric Co. purchased site; will erect building.

Tex., Dallas—Publishing.—Southern Publishing Co. increased capital from \$40,000 to \$80,000.

Tex., Electra—Grain Elevator.—Farmers' Elevator Co. increased capital from \$5000 to \$15,000.

Tex., El Paso—Fiber, etc.—Cactus Fiber & Reduction Co., capital \$18,500, incptd. by Gunther R. Lessing, Oscar L. Bowen and Jose D. Madero.

Tex., El Paso—Laundry.—Troy Laundry Co. will build laundry; 1 story; site 100x120 ft.; each machine operated by individual motor; contain engine-room, power plant, etc.; cost \$50,000.

Tex., Houston—Engineering.—Duller & Burnell Engineers, incptd. by David M. Duller, W. V. Burnell and J. J. Settegast, Jr.

Tex., La Porte—Hardware.—La Porte Hardware Co., capital \$2500, incptd. by J. S. Slusher, Henry B. Harrison and W. L. Willis.

Tex., Merkel—Laundry.—Merkel Commercial League is promoting erection of laundry.

Tex., San Antonio—Laundry.—New Process Laundry Co. increased capital from \$20,000 to \$40,000.

Tex., Terrell—Publishing.—Tribune Publishing Co., capital \$5000, incptd. by Fred I. Massengill, J. S. Grinnan, Jr., and J. M. LaRoe.

Va., Eggleston—Bottling.—New River White Sulphur Springs Co., capital \$25,000, incptd.; J. G. Fry, Prest., Clifton Forge, Va.; H. L. Phlegar, Secy.-Treas., Ripplemend, Va.

Va., Newport News—Publishing.—Alice W. Morton Book Co., capital \$10,000, incptd.; Alice W. Morton, Prest.; W. N. Melvin, Secy.-Treas.

Va., Norfolk—Engraving.—Norfolk Engraving Corp., capital \$10,000, chartered; Howard McGuire, Prest.; A. T. Stroud, Secy.-Treas.

Va., Richmond—Abattoir.—Union Abattoir, capital \$50,000, chartered; F. W. Brauer, Prest.; Ed Keck, Secy.

Va., South Richmond—Bottling.—Broad Rock Springs Co., capital \$100,000, incptd.; Cyrus W. Beale, Prest.; S. G. Mason, Secy.-Treas.

W. Va., Charleston—Mixer.—Continental Mixer & Supply Co., capital \$25,000, incptd. by C. E. Eagan, L. Davis, Paul H. Tierman and others.

W. Va., Wheeling—Publishing.—West Virginia Patriot, capital \$10,000, incptd. by Anton Reymann, Anna Reymann, R. H. Mahlike and others.

MISCELLANEOUS FACTORIES

Ala., Andalusia—Bottling.—Andalusia Lime Co. Bottling Co., capital \$5000, incptd. by Cary M. Ethridge, Mrs. Ruby C. Ethridge, G. F. Everage and others.

Ala., Birmingham—D. Joseph, Propr. Southern Novelty House, purchased Birmingham Product Co. peanut products plant at 233 Third Ave.; plans to improve.

Ala., Mobile—Automobile Device.—Universal Commutator Co., capital \$30,000, incptd.; E. B. Marshall, Prest.; W. C. Baumhauer, Sr., V.-P.; A. M. Jackson, Secy.; W. A. Dozier, Treas.; will manufacture commutator for automobiles.

Ark., Fort Smith—Sorghum.—Best-Clymer Mfg. Co. of St. Louis, Mo., let contract to erect 2 additions to sorghum mill; one building for handling by-products of fruits and vegetables canned at St. Louis plant; cost of building and equipment \$20,000; erect 3-story sorghum mill addition costing \$5000.

Ark., Pine Bluff—Bottling.—Coca-Cola Bottling Co. organized; L. F. Bellingham, Prest. and Treas.; L. Healey, V.-P.; W. L. Grooms, Secy.; carbonated drinks, mineral waters, etc. (Lately noted incptd., capital \$10,000.)

Ark., Stuttgart—Rice Mill.—Standard Milling Co., Houston, Tex., purchased property of Arkansas Bending Co.; will erect rice mill reported to cost, with elevator, about \$100,000. (See Machinery Wanted—Building Material; Sprinkler Equipment.)

D. C., Washington—Bakery.—Corby Baking Co., capital \$300,000, incptd.; C. I. Corby (of Corby Bros., 2305 Georgia Ave. N. W., Washington, D. C.), Prest.; Wm. Thomas, Secy.-Treas., Alexandria, Va.

Fla., Miami—Films.—Field Feature Films, capital \$100,000, incptd.; C. C. Fields, Prest.; E. A. Sutton, V.-P.; H. G. Ralston, Secy.-Treas. (Reported in Mch. to build \$20,000 moving-picture studio.)

Fla., Miami—Tobacco.—Thompson & Co., capital \$25,000, incptd.; M. A. Thompson, Prest.; F. B. Dulmage, Secy.-Treas.

Fla., Tampa—Jewelry.—Beckwith-Range Jewelry Co., capital \$50,000, incptd.; C. E. Range, Prest.; W. H. Beckwith, Treas.; Otto L. Henderson, Secy.

Fla., Tarpon Springs—Glass.—Company is being organized by D. E. Noble and others to establish glassworks; will utilize local silicate deposits.

Ga., Brunswick—Shipbuilding.—Brunswick Marine Construction Co. organized by W. U. Taylor and Geo. W. Hinkley, Secy. Apex Equipment Co., both of New York, and L. J. Nilson of Baltimore, Md.; construct plant for building schooners and barges; later plans to build steamships.

Ga., Douglas—Marble.—Douglas Granite & Marble Co., capital \$20,000, organized by G. L. Simms, C. A. Ward, S. J. Stubbs and others.

Ga., Macon—Retainer Board.—Chas. F. Howe, Consult. Engr., and associate contemplate securing establishment of paper mill; have supply of wood suitable for manufacture of retainer board, and water-power.

Ga., Pelham—Bottling.—Pelham Coca-Cola Bottling Co., capital \$5000, incptd. by W. B. Welch, Pelham, and W. B. Haley, Albany, Ga. (Noted in Feb.)

S. C., Columbia—Candy.—Novelty Candy Co., L. S. Covin, Prest., contemplates installing candy manufacturing machines. (See Machinery Wanted—Candy Machinery.)

Tenn., Bristol—Overalls.—King-Lockwood Overall Mfg. Co. will erect plant; 2 stories; brick; 25x100 ft.; ordered 100 sewing machines; Dan Eichenfeld, Archt., Tulsa.

Tenn., Chattanooga—Specialties.—Oklahoma Automatic Weather Bureau Co., capital \$10,000, incptd. by J. T. Wiggins, O. E. Grimes and J. A. Tomlin.

Ola., Sand Springs—Overalls.—Sand Springs Overall Factory, Chas. Page, Prest., will build overall factory; fireproof; 2 stories; 25x100 ft.; ordered 100 sewing machines.

Ga., Douglas—Marble.—Douglas Granite & Marble Co., capital \$20,000, organized by G. L. Simms, C. A. Ward, S. J. Stubbs and others.

Ga., Savannah—Vinegar.—Wallace Vinegar Co., capital \$15,000, incptd. by R. F. Lenehan, M. H. Rothschild and Ferd. Neuberger.

Ga., Statesboro—Naval Stores.—Georgia Naval Stores Co., capital \$30,000, incptd.; has Ben S. Mooney's plant for extracting oil from stumps and lightwood knots; A. W. Quattlebaum, Prest.; Mr. Mooney, V.-P. and Gen. Mgr.; H. B. Strange, Secy.

Ga., Tifton—Medicine.—Herbal Remedy Co., capital \$10,000, incptd. by I. W. Myers, J. B. Murrow, B. F. Conger and Mrs. Pearl Myers.

Ky., Louisville—Tires.—White Tire Co., capital \$10,000, incptd. by Chas. Dobbs and others.

Ky., Louisville—Mechanical and Electrical Devices, etc.—Lion Universal Mfg. Co., capital \$20,000, incptd. by Harry J. Wolff and R. W. Schauberger, Louisville, and F. A. Lang, Jeffersonville, Ky.

Md., Baltimore—Clothing.—P. Levin & Co., 333 W. Baltimore St., leased 5-story building at 400 W. Baltimore St. and will use for clothing factory.

Md., Baltimore—Oxygen.—Linde Air Products Co., 42d St. Bldg., New York, wires Manufacturers Record: "Building will be 125x140 ft.; 1 story; brick and steel structure; concrete foundation, floor and roof; cost \$25,000; install machinery to manufacture oxygen; daily capacity 100,000 ft.; purchased all equipment." (Lately noted to build branch plant.)

Md., Brunswick—Creamery.—Sutton Co., capital \$10,000, incptd. by L. P. Mayen of Brunswick, Jas. R. Sutton and Ernest C. Henderson of Hancock, Md.

Md., Elkton—Chemicals.—Cosmic Chemical Co. incptd. by Clement M. Egner and others.

Miss., Laurel—Pine Oil.—Pine Stump By-Products Co. organized; Chas. Green, Prest.; B. A. Schneider, V.-P. and Mgr.; E. E. Ferrell, Secy., each of Laurel; A. T. Ratliff, Treas.-Supt., Hattiesburg, Miss.; buy oil obtained from operation of Free Stump Remover Mfg. Co. and refine into turpentine, pine oil and pine tar; daily capacity 1500 to 2000 gals. (See Foundry and Machine Plants.)

Miss., Tupelo—Creamery.—Tupelo Creamery Co., capital \$1500, incptd. by R. W. Reed, J. M. Thomas and others.

Mo., Carthage—Overalls.—Smith Bros., Sedalia, Mo., will establish overall factory.

Mo., St. Louis—Brooms, etc.—United Workers for the Blind purchased building at 1828 Wash St. and will remodel and equip to manufacture brooms, cane chairs, weave carpets, etc.

Va., Petersburg—Bakery.—American Pie

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Co., capital \$15,000, Incptd.; W. E. Van Deusen, Prest.; Frank M. Van Deusen, Secy.

Va., Richmond — Leather. — Richmond Leather Mfg. Co., J. D. Patton, Prest., and John H. Lyons, Secy.-Mgr., let contract to John T. Wilson Co., Richmond, to erect \$15,000 building; Carnal & Johnston, Archts., Richmond; contracts all closed.

Va., Suffolk—Telephone Attachment.—Automatic Phone Attachment Co., 803 Washington St., capital \$5000, Incptd.; Clarence E. Booker, Prest.; A. C. Volper, V.-P. and Secy.; M. K. Kendrick, Mgr.; manufacture automatic telephone attachment, patented by Mr. Booker; contracts not yet let, but will probably have the attachments made in Chicago by contract.

W. Va., Lewisburg.—Veterinary Remedies, etc.—Lewisburg Laboratories, capital \$10,000, Incptd. by H. F. Hunter, C. A. Revercomb, E. H. Crickenberger and others.

W. Va., Wheeling—Chemicals.—Company organized with \$300,000 capital by E. S. Rome, A. A. Schramm, C. W. Appenzeller and others; convert Uneeda Brewing Co.'s brewery into plant to manufacture chemicals used in manufacture of munitions of war and explosives; Willitt C. Pierson of Cleveland, O., to be in charge.

MOTORS AND GARAGES

Ala., Birmingham—Automobile Supplies.—Electric & Auto Supply Co., capital \$50,000, Incptd. by T. H. Banners, C. D. Cotton and W. H. Manley.

Ark., Little Rock—Garage.—Matt Bush & Bros. will erect garage; 1 story; brick; cost \$7500.

Ky., Barboursville—Garage.—Logan & Archer Garage Incptd. by Leslie Logan, J. E. Archer and Beatrice Archer.

Ky., Louisville—Garage.—Louisville Motor Repair Co., capital \$2500, Incptd. by E. H. Orther and others.

Md., Baltimore — Garage.—W. W. Kemp (Prest. C. M. Kemp Mfg. Co., 405-413 E. Oliver St.) will erect garage at 1418-1424 Belvidere Ave.; 50x69.10 ft.; brick; 2 stories; Sparklin & Childs, Archts., 502 Law Bldg., Baltimore; Henry S. Rippel, Contr., 1-7 Clay St., Baltimore.

Md., Frederick.—Kehne Bros. have plans by Garrett S. de Grange, Jr., for warehouse and garage. (See Warehouses.)

Miss., Meridian—Garage.—Bostick Lumber & Mfg. Co. will build garage; 2 stories; brick construction; fireproof; plate-glass roof.

Mo., Kansas City — Automobile Training School.—Rahe's Automobile Training School, 11th and Locust Sts., will erect building at 1215-1217 Wyandotte St.; 50x142 ft.; 4 stories; steel and concrete; exterior faced in brick; unsupported span of 50 ft.; no inside columns; cost \$90,000.

N. C., Winston-Salem—Automobiles.—Forst Motor Co., capital \$50,000, Incptd. by J. H. Grubbs, C. W. Jones and others.

S. C., Allendale—Automobiles.—Allendale Auto Repair Co., capital \$1200, Incptd. by H. R. Erwin, J. M. Patterson and C. F. Collins, Tenn., Memphis — Automobiles.—Memphis Overland Co. has plans by G. M. Shaw & Co., Memphis, for automobile sales and service station; fireproof; exterior of brick and terra-cotta; 3 stories; 75x150 ft.; electric elevator; cost \$40,000.

Tenn., Memphis—Automobile Building.—633 Tire & Vulcanizing Co. has plans by G. M. Shaw & Co., Memphis, for building; 2 stories; 50x100 ft.; fireproof; pressed brick and terra-cotta exterior; cost \$25,000.

Tenn., Nashville — Garage.—G. N. and Martha S. Tilman are having plans prepared by Chas. Ferguson of Nashville for garage; about 96x169 ft.; leased by Stockell Motor Co.

Tex., El Paso—Automobiles.—El Paso Auto & Battery Co., capital \$3000, Incptd. by Paul C. Morey, C. K. Jameson and F. H. Terrell.

Va., Richmond — Garage.—Murphy's Hotel will erect garage; 2 stories; brick, steel and concrete; cost \$20,000.

W. Va., Gary—Garage.—Gary Garage, capital \$5000, Incptd. by Wm. O'Toole, Howard H. Evenson, Guy C. Mace and others.

ROAD AND STREET WORK

Ala., Clanton.—Chilton County Comms. let contract W. T. Taylor at \$12,000 to gravel Clanton-Lock 12 highway, completion of 13-mi. road from Clanton to Coosa River; R. L. Kenan, County Engr. (Call for bids lately noted.)

Ark., Morrillton.—City contemplates paving 3 or 4 mi. of streets. Address The Mayor.

Ala., Selma.—Dallas County Board of Revenue let contract to C. E. Shuptrine, Central Mills, Ala., to construct 6 mi. gravel roads; Engr., W. O. Crisman, Selma. (Bids lately noted.)

Ark., El Dorado.—City, W. P. Bryant, Mayor, let contract to McEtchin & McEtchin, Little Rock, Ark., for 26 blocks concrete paving; \$34,500 available; Ford & McRae, Engrs., Little Rock. (Bonds lately noted issued.)

Ark., Texarkana.—Comms. Improvement Dist. No. 20 (John P. Kline and others) will issue \$150,000 bonds for paving; will receive proposals from engineers for permanent employment until May 1.

Fla., Arcadia.—De Soto county will grade roads; 399,620 cu. yds. earth, of which 242,537 cu. yds. will be hand graded; balance machine grading; County Comms., A. L. Duran, Clerk, receive bids until May 2; contractors to furnish bids upon basis of furnishing all machinery and equipment and upon basis of county furnishing tractor and grading machine; Phl. Lacey, Dist. Road Engr., Zolfo, Fla.

Fla., Arcadia.—De Soto County Comms. have plans and specifications for 561,749 sq. yds. of road construction in Dist. No. 5; 600 sq. yds. brick and concrete curbing and 400 sq. yds. brick with concrete curbing; various other road improvements; bids until May 2. (See Machinery Wanted—Paving.)

Fla., Bartow.—Polk County Comms., J. A. Johnson, Clerk, let conditional contracts for 240 mi. road construction; dependent on vote (to be called) for issuing \$1,400,000 bonds; clay base, 1 in. asphalt binder and 1 in. sheet asphalt; contracts, in 5 equal parts, to follow: Edwards Construction Co., Tampa, Fla.; Continental Public Works Co., New York and Mt. Dora, Fla.; Eureka Paving Co., Houston, Tex.; W. B. McDonald Construction Co., Mt. Vernon, N. Y.; E. C. Humphrey Hackensack, N. J.; have not awarded contracts for bridging—20 concrete-steel bridges and 90 reinforced concrete culverts. (Lately noted inviting bids until Apr. 18, to vote upon bonds, etc.)

Fla., Bradenton.—Manatee County Commissioners ask bids until May 24 to grade lately-noted 18.7 mi. road; also grade and surface with sand asphalt 28 mi. road in Sarasota-Venice Road and Bridge Dist.; 240,000 cu. yds. excavation; 145,000 sq. yds. sand asphalt surface; 159,000 sq. yds. concrete base; 296,000 lin. ft. concrete curb; 1164 cu. yds. concrete in drainage structures; 2412 lin. ft. corrugated metal pipe; 328 piles; 69,000 ft. B. M. bridge timber; 120,000 ft. B. M. timber in protection work; Robt. H. Roesch, Clerk County Comms.; Chas. A. Browne, Dist. Engr., Sarasota, Fla. (See Machinery Wanted—Road Construction.)

Fla., DeLand.—Volusia county contracts, recently noted let and yet to be awarded, are stated by J. B. McCrary Co., Engr., Atlanta, Ga., to be as follows: In DeLand-Lake Helen Dist. contracts to amount of \$309,697.66 were let to Southern Clay Mfg. Co., Chattanooga, Tenn., for 3 1/2-in. Dunn lug brick grouted, on sand foundation; roads mainly 9 ft. wide, with 2x10-in. wood edging and 3 ft. shell or rock shoulders on each side; all culverts and bridges to be of permanent type; all bridges of reinforced concrete; this covers practically all roads on DeLand-Lake Helen Dist. except small mileage of shell or modified asphalt; contracts for this construction will not be let for 60 days. In Halifax Special Road and Bridge Dist., for main road from St. Johns county line to line between Halifax Special Road and Bridge Dist. to New Smyrna Special Road and Bridge Dist., which road passes through Ormond, Daytona and along Halifax river; contracts were let to F. G. Proudfoot, Chicago and Tampa, for asphaltic concrete on shell or rock base, 2-in. surfacing; total amount of contract \$236,543.15. Contract for road from Daytona to DeLand will probably be let at board meeting May 1; road to be of brick, grouted, 9 ft. wide, with 3 ft. shell shoulders on either side.

Fla., De Funiak Springs.—City votes May 2 on \$10,000 bonds for street improvements; C. E. Dowling, City Clerk. (Noted in Mch.)

Fla., Fort Myers.—Lee county, Special Road and Bridge Dist. No. 2, voted \$164,000 bonds to construct 36 1/2 mi. roads. Address County Comms.

Fla., Kissimmee.—Osceola county, Dist. 1, 2, 4 and 5, voted \$250,000 bonds to construct roads and bridges. Address County Comms. (Noted in March.)

Fla., Lake City.—Bond Trustees let contract to Alabama Paving Co., Birmingham, Ala., to construct about 21,000 sq. yds. vitrified paving; cost about \$30,000; C. R. Horne, Engr., Jasper, Ala. (Bids lately noted.)

Fla., Miami.—City will construct 2 1/2 mi. of permanent street pavement (including asphalt) to cost \$110,000 and 10 mi. native rock pavement to cost \$70,000; B. H. Klyce, City Engr.

Fla., Punta Gorda.—City let contract to pave with asphalt and curb Taylor and other streets. Address The Mayor.

Fla., Starke.—City let contract J. B. McCrary Co., 1408 Third National Bank Bldg., Atlanta, Ga., at \$27,033.50 to pave streets, and at \$19,000 to construct sanitary sewers; \$45,000 available for paving and sewers, leaving surplus of \$17,000, of which \$9000 will probably be added to sewerage fund and \$9000 to paving; McCrary Company is engineer. (Call for bids lately noted.)

Ky., Georgetown.—Scott County Comms. will construct water-bound macadam roads; date of opening bids not set; \$106,000 available; R. P. Duvall, Engr. (Lately noted to construct 56 mi.)

Ky., Catlettsburg.—Boyd county voted \$50,000 bond issue for road construction.

Ky., Campbellsville.—Taylor County Commissioners let contract J. A. Peterson, A. J. Arvin and Harry Edwards to rebuild 1 mi. of road leading out of Campbellsville on Salsoma, Spurlington and Greensburg Rds., respectively.

Ky., Elkton.—Todd county votes June 10 on \$100,000 bonds to improve roads. Address County Comms.

Ky., Maysville.—Mason county will vote June 24 on \$300,000 bonds to construct roads. Address County Comms. (Noted in Mch.)

Ky., Lexington.—Mason county will expend \$25,000 for road construction; Thos. M. Meyer, Highway Engr.

Mo., Nevada.—Vernon County Comms. plan to expend \$17,500 to construct roads.

Mo., New London.—Halle County Comms. plan to grade 125 mi. roads; \$17,000 available.

Mo., Ozark.—Christian county will expend \$13,000 for road construction during this year; L. W. Johnson, County Engr.

Mo., Paris.—Monroe county will construct gravel roads; M. W. Caldwell, Highway Engr.

Mo., St. Charles.—St. Charles county plans to construct 10 to 15 mi. gravel roads and 1 1/2 mi. telford macadam; probably let contract for telford macadam construction in June; Alfred Riske, Highway Engr.

Mo., St. Joseph.—Buchanan county contemplates 250,000 cu. yds. road grading; R. L. Cargill, Highway Engr.

Mo., Waynesville.—Pulaski county contemplates constructing 40 mi. earth road, 5 mi. gravel road and 60 mi. grading only; E. A. Bryant, Highway Engr.

N. C., Concord.—City let contract R. M. Hudson Paving Co. to pave 1 1/2 mi. streets.

N. C., Dunn.—City will construct 25,000 sq. yds. sheet asphalt and gravel paving with cement combined curb and gutters and 200 ft. storm sewer; cost \$50,000; bids until May 1; J. K. Strange, Engr.; J. W. Turnage, Mayor; lately noted. (See Machinery Wanted—Paving, etc.)

N. C., North Wilkesboro.—City will construct 4000 sq. yds. bituminous macadam pavement; invite bids; W. A. Bullis, Clerk and Treas. (See Machinery Wanted—Paving.)

N. C., Salisbury.—Rowan County Comms. let contract J. T. Potts of Greensboro, N. C., to construct road from Woodleaf to Irene county line at Cool Springs; 10 mi.

N. C., Wilson.—City will improve streets; E. F. Killette, Mayor, and Board of Commissioners receive bids until May 11; about 40,000 sq. yds. pavement, with alternate bids on 100,000 sq. yds.; specifications cover brick, durablock, sheet asphalt and bituminous concrete pavement, and in addition will consider bids on bitulithic and other special forms of pavement; part new concrete and part old macadam foundations will be used; work includes grading, furnishing, placing and constructing granite and concrete curbs, vitrified brick and concrete gutters and storm drains; Anderson & Christie, Engrs., Charlotte, N. C. (See Machinery Wanted—Paving.)

Okla., Pawnee.—City contract, lately noted let to M. A. Swatek & Co., Oklahoma City, Okla., involves 5500 sq. yds. brick paving and 1300 lin. ft. curb; Engr., Benham Engineering Co., Oklahoma City.

Okla., Valliant.—City voted on \$10,500 bonds to improve streets. Address The Mayor.

Tenn., Rutledge.—Grainger county will grade 60 mi. roads and macadamize 45 mi. Road Commission, H. B. Heim, Chmn., receives bids until May 10. (See Machinery Wanted—Road Construction.)

Tenn., Chattanooga.—City will pave with sheet asphalt and asphaltic concrete Long St. from Main to 28th, Mitchell Ave. from Main to 19th, and Read Ave. from Rosselle Ave. to 19th St., being paving districts Nos. 187, 186, 187, respectively; bids until April 29; also separate bids until same date to pave with Portland cement concrete Long St. from Main to 28th; E. D. Bass, Commr. Dept. of Streets and Sewers. (See Machinery Wanted—Paving.)

Tenn., Jasper.—Marion county will improve roads; 30 mi. grading, 15 mi. macadam and chert and 13 mi. resurfacing; Pilk-

ing; \$15,000 available; R. N. Simpson, Highway Engr.

Mo., Bolivar.—Polk county contemplates constructing 10 mi. earth roads, 25 mi. gravel roads, 10 mi. macadam roads and 200 mi. grading only; \$65,000 available; Thos. S. Leavitt, Highway Engr.

Mo., Cassville.—Barry county, Monett Special Road Dist., voted \$50,000 bonds to construct roads. Address County Comms. (Noted in Mch.)

Mo., Columbia.—Boone county will construct 4 mi. gravel roads; Geo. A. Ridgeway, Highway Engr.

Mo., Fulton.—Callaway county plans to construct 20 mi. earth roads; W. P. Dierks, Highway Engr.

Mo., Huntsville.—Randolph county plans to expend \$40,000 for road construction; Swan McDonald, Highway Engr.

Mo., Linn Creek.—Camden county plans 100 mi. road grading; E. N. Knight, Highway Engr.

Mo., Macon.—Macon county will expend \$25,000 for road construction; Thos. M. Meyer, Highway Engr.

Mo., Nevada.—Vernon County Comms. plan to expend \$17,500 to construct roads.

Mo., New London.—Halle County Comms. plan to grade 125 mi. roads; \$17,000 available.

Mo., Ozark.—Christian county will expend \$13,000 for road construction during this year; L. W. Johnson, County Engr.

Mo., Paris.—Monroe county will construct gravel roads; M. W. Caldwell, Highway Engr.

Mo., St. Charles.—St. Charles county plans to construct 10 to 15 mi. gravel roads and 1 1/2 mi. telford macadam; probably let contract for telford macadam construction in June; Alfred Riske, Highway Engr.

Mo., St. Joseph.—Buchanan county contemplates 250,000 cu. yds. road grading; R. L. Cargill, Highway Engr.

Mo., Waynesville.—Pulaski county contemplates constructing 40 mi. earth road, 5 mi. gravel road and 60 mi. grading only; E. A. Bryant, Highway Engr.

N. C., Concord.—City will construct 1 1/2 mi. streets.

N. C., Dunn.—City will construct 25,000 sq. yds. sheet asphalt and gravel paving with cement combined curb and gutters and 200 ft. storm sewer; cost \$50,000; bids until May 1; J. K. Strange, Engr.; J. W. Turnage, Mayor; lately noted. (See Machinery Wanted—Paving, etc.)

N. C., North Wilkesboro.—City will construct 4000 sq. yds. bituminous macadam pavement; invite bids; W. A. Bullis, Clerk and Treas. (See Machinery Wanted—Paving.)

N. C., Salisbury.—Rowan County Comms. let contract J. T. Potts of Greensboro, N. C., to construct road from Woodleaf to Irene county line at Cool Springs; 10 mi.

N. C., Wilson.—City will improve streets; E. F. Killette, Mayor, and Board of Commissioners receive bids until May 11; about 40,000 sq. yds. pavement, with alternate bids on 100,000 sq. yds.; specifications cover brick, durablock, sheet asphalt and bituminous concrete pavement, and in addition will consider bids on bitulithic and other special forms of pavement; part new concrete and part old macadam foundations will be used; work includes grading, furnishing, placing and constructing granite and concrete curbs, vitrified brick and concrete gutters and storm drains; Anderson & Christie, Engrs., Charlotte, N. C. (See Machinery Wanted—Paving.)

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Okla., Valliant.—City voted on \$10,500 bonds to improve streets. Address The Mayor.

Tenn., Rutledge.—Grainger county will grade 60 mi. roads and macadamize 45 mi. Road Commission, H. B. Heim, Ch

Comms., W. H. Cline, Secy., invite bids until May 12. (See Machinery Wanted—Road Construction.)

Tenn., Knoxville.—Knox county will grade and macadamize various roads; about 10 mi.; Public Roads Comms., Jno. Douglas, Supt., receives bids until May 3; R. O. Galbraith, County Engr. (See Machinery Wanted—Road Construction.)

Tex., Athens.—Henderson county, Precinct No. 5, votes May 16 on \$60,000 bonds to construct roads. Address County Comms.

Tex., Athens.—Henderson county, Precinct No. 3 (including Murphison and Brownsville), voted \$60,000 bonds to construct roads. Address County Comms.

Tex., Bartlett.—City, Stanton Allen, Mayor, let contract to Levy & Levy, Dallas, Tex., at \$57,000 to construct about 30,000 sq. yds. 3-in. vertical fiber brick on 5-in. base, cement filler; city has \$24,000 available (city's part, 43 per cent. of entire cost); R. T. Smith, Engr., Bartlett and Temple, Tex. (Bids lately noted.)

Tex., Bastrop.—Bastrop county, Cedar Creek Prec., voted \$30,000 bonds to construct roads. Address County Comms.

Tex., Bryan.—Brazos County Comms., let contract Hadden & Bates of Galveston at \$170,441.26 to construct 85 mi. earth and gravel roads; surface about 5 mi.; Abney & McCormick, Engrs., R. F. D. No. 1, Bryan. (Call for bids lately noted.)

Tex., Bryan.—Brazos county let contract at \$94,292.18 to pave residence streets; W. W. Harris, Mayor; A. S. Adams, City Engr. (Lately noted.)

Tex., Comanche.—City Council voted to issue \$20,000 time warrants to pave streets; no definite plans; probably construct macadam, oil-bound surface; cost \$22,500; J. R. Eanes, Mayor.

Tex., Corsicana.—Navarro County Comms., P. R. Owen, County Judge, will vote bonds, in 4 districts, for road construction; total amount \$150,000; 3 districts vote Apr. 29; 1, May 20. (Lately noted to vote May 20 on \$40,000 bonds, Eureka Rd. Dist.)

Tex., Edinburg.—Hidalgo county voted \$250,000 bonds to construct county's portion of Diamond Loop highway between Brownsville and San Antonio. (Lately noted.)

Tex., Gilmer.—Upshur county, Road Dist. No. 2, defeated \$300,000 bonds to construct roads; O. J. Phillips, Commr. (Noted in Mch.)

Tex., Hillboro.—Hill county, Hubbard Road Dist., votes May 24 on \$140,000 bonds to construct roads. Address County Comms.

Tex., Lockhart.—Caldwell County Comms., let contract J. T. Hamer of Seguin, Tex., to construct 3 mi. San Antonio-to-Houston National Highway; also awarded contracts to build several tributary roads; \$50,000 bonds voted.

Tex., Mt. Pleasant.—Titus county, Winfield precinct, voted \$100,000 bonds to construct roads. Address County Comms. (Lately noted.)

Tex., Pittsburg.—City will construct 9715 sq. yds. pavement, 3460 lin. ft. curb, 2000 cu. yds. excavation, 8 catch-basins, 1600 lin. ft. 15-in. drain sewer, 300 lin. ft. 12-in. drain sewer; A. D. Stivers, City Engr., receives bids until May 1; J. F. Reynolds, Mayor. (See Machinery Wanted—Paving, etc.)

Tex., Rockport.—Aransas County Comms., contemplate constructing automobile road to Aransas Pass; cost about \$15,000.

Tex., Sinton.—San Patricio county (Road Dist. No. 1) voted \$10,000 bonds to build its portion of Diamond Loop highway to Padre Island, 14 mi. Address County Comms.

Tex., Sulphur Springs.—Hopkins county (Brashear and Cumby Dist.) voted \$50,000 bonds to construct 10 mi. road from Hunt county line eastward to Brashear. Address County Comms.

Tex., Wichita Falls.—City votes May 23 on \$40,000 bonds to pave streets; L. C. Hinckley, City Engr. (Noted in Mch.)

Va., Altavista.—City will improve streets. Address The Mayor.

Va., West Point.—City, H. Anderson, Mayor, will vote May 23 on \$30,000 bonds to construct sidewalks and extend water and sewer systems. (Lately noted.)

Va., Norfolk.—City will pave Plume St. from Granby to Bank St.; cost \$13,000; and Church St. from Queen to Granby Sts., probably with wood block, to cost \$134,317.60.

Va., Richmond.—City plans \$50,000 bond issue for sidewalk construction and alley

improvements. Chas. E. Bolling, City Engr. (See Water-works.)

Va., South Boston.—City will pave upper portion of Main St.; bitulithic concrete for width of 18 ft.; 5-ft. strip of concrete on each side. Address The Mayor.

Va., Elkins.—Randolph county, Leads-ville Dist., Thaddeus Pritt, County Clerk, will issue \$220,000 bonds noted voted in March for road construction.

Va., Fairmont.—Marion county, Grant Dist., votes May 23 on bonds to construct roads. Address County Comms.

Va., Fayetteville.—Fayette county, Nuttall Dist., votes May 23 on \$100,000 bonds to construct roads; R. J. Stegall, Clerk County Court.

Va., Fayetteville.—Fayette county, Sewell Mountain Dist., votes June 13 on \$175,000 bonds to construct roads of asphaltic brick, concrete, macadam, stone block or other materials; R. J. Stegall, Clk. County Court.

Va., Fayetteville.—Fayette county, Kanawha Dist., votes May 23 on \$350,000 bonds to construct road of macadam, brick, concrete or other material; R. J. Stegall, Clk. County Court.

Va., Fayetteville.—Fayette county, Falls Dist., votes May 23 on \$175,000 bonds to construct roads with asphaltic brick, concrete, macadam, stone block and other material; R. J. Stegall, Clk. County Court.

Va., Fayetteville.—Fayette county, Fayetteville Dist., votes May 23 on \$600,000 bonds to construct roads with asphaltic brick, concrete, macadam, stone block or other material; R. J. Stegall, Clk. County Court.

Va., Logan.—Logan county, Logan Dist., voted \$200,000 bonds to construct roads; Bedlow, McCorkle & Wilson, Engrs., Logan; Bruce McDonald, Prest. of Dist. (Noted in March.)

Va., New Martinsville.—Wetzel county, Church Dist., voted \$240,000 bonds to construct 15.64 mi. roads; S. Myers, Clerk County Court. (Noted in March.)

Va., Parkersburg.—Wood county, Union Dist., defeated \$42,000 bonds to construct roads; C. L. McVey, Clerk County Court. (Noted in March.)

Va., West Union.—Doddridge County Court, Hiram Hutson, Clerk, asks bids until May 12 to construct 19.4 mi. roads; Engrs., Hornor Bros., 314 W. Main St., Clarksburg, W. Va.; noted in March. (See Machinery Wanted—Road Construction.)

SEWER CONSTRUCTION

Ark., Paragould.—City plans to construct sewer system in South Paragould; cost \$20,000. Address The Mayor.

Fla., De Funiak Springs.—City votes May 2 on \$10,000 bonds to extend sewer system; C. E. Dowling, City Clerk. (Noted in Mch.)

Fla., Jacksonville.—City will construct 5000 ft. sanitary and storm sewers varying in size from 12 to 51 inches; Bond Trustees, Gustav Muller, Acting Chrmn., receives bids until May 12. (See Machinery Wanted—Sewer Construction.)

Fla., Jacksonville.—City let following contracts to construct sewers and storm-water drains: Meshler & Flynn at \$40,943.76 and \$17,864.85, respectively, for sewers in Sections 3 and 6; Bryan & Co. at \$18,214.85, \$21,970.48 and \$38,315.44, respectively, sewers in Sections 4, 5 and 7; rejected bids to construct sewers in Sections 1 and 2, and invites new bids until May 12; also let contracts to furnish material, including vitrified, cast-iron and reinforced concrete pipe and cast-iron culvert pipe ranging from 8 to 51 in.; L. D. Smoot, Commr. of Public Works. (Call for bids lately noted.)

Fla., Starke.—City let contract J. B. McFerrin, V.P., will remodel third, fourth and fifth floors of Trust Building for use of Western Union Telegraph Co.; cost reported at \$11,000; plans by C. D. Hill & Co., Dallas, Tex.; W. H. King, Dallas, Contr.

S. C., Belton.—Southern Bell Telephone & Telegraph Co. (main office, Atlanta, Ga.) will improve plant; cost \$400.

S. C., Gaffney.—Piedmont Telephone & Telegraph Co. contemplates improvements to include installation of latest model telephones and exchange; estimated cost \$20,000.

Tenn., Chattanooga.—Cumberland Telephone & Telegraph Co. plans to expend \$850,000 to rebuild and equip plant, including placing of wires under ground and erection of fireproof exchange building.

Tenn., Burkburnett.—Burkburnett Telephone Co., capital \$10,000, incptd. by W. T. Willis, J. A. Staley and S. W. Graham.

Tenn., Vickery.—Texas Telephone Engineering Co., I. H. Gaither, Gen. Mgr., has franchise to construct telephone system.

on \$300,000 bonds to extend sewer system; Guy V. McClure, City Engr. (Lately noted.)

Okl., Kendall.—Town votes May 2 on \$30,000 bonds to construct sewers; C. W. Johnson, Prest. Board Town Trustees; Geo. H. Cox, Town Clerk.

Tex., Ballinger.—City will purchase sewer system. Address The Mayor.

Tex., Greenville.—City will vote May 6 on \$100,000 bonds for sewer construction; contains 18 mi. 6-15-in. sewers; also disposal plant; A. D. Duck, City Engr. (Lately noted.)

Tex., Henderson.—Henderson City Sewer Co., capital \$15,000, incptd. by J. M. Wood, D. A. Wood and J. W. Spain.

Tex., Pittsburgh.—City will construct 1000 lin. ft. 15-in. drain sewer, 300 lin. ft. 12-in. drain sewer, 8 catch-basins, etc.; A. D. Stivers, City Engr., receives bids until May 1; J. F. Reynolds, Mayor. (See Road and Street Work and Machinery Wanted—Paving, etc.)

Tex., Victoria.—City will construct sewage-disposal plant; J. H. Fleming, Mayor, receives bids until May 1; L. A. Gueringer, Engr., Victoria, lately noted. (See Machinery Wanted—Sewage-disposal Plant.)

Va., Altavista.—City voted \$35,000 bonds to purchase sewer system and water-works of Altavista Land & Improvement Co. for \$19,000 and will improve. Address The Mayor. (Lately noted.)

Va., Richmond.—City plans \$200,000 bonds for sewer construction; Chas. E. Bolling, City Engr. (See Water-Works.)

Va., West Point.—City, H. Anderson, Mayor, will vote May 23 on \$30,000 bonds to extend sewer system, etc.; lately noted. (See Road and Street Work.)

Va., Mount Hope.—Mount Hope Electric Power & Water Co. applied for franchise to construct sewer system, etc. (See Water-works.)

TELEPHONE SYSTEMS

Ga., Atlanta.—Southern Bell Telephone & Telegraph Co. has plans by P. Thornton Marye, Candler Bldg., Atlanta, for North Atlanta telephone exchange; reinforced concrete frame; buff brick, terra-cotta, marble and tile; fireproof construction; hollow metal windows and doors; tar and gravel roof; roof garden; 2 stories, but so planned that 3 additional stories may be added; cost \$100,000; invites bids until May 1. (Lately noted.)

Ky., Ledbetter.—Company organized to build telephone system; A. P. Shepherd, Prest.; R. C. Elson, Secy.-Treas. Ky., Omer.—Omer & Bonnie Telephone Co. incptd. by Harlan Murphy and others.

Ky., Staffordville.—Mudlick-Rambling Telephone Co. incptd. by W. H. McKenzie and others.

La., New Orleans.—Cumberland Telephone & Telegraph Co. (main office Louisville, Ky.) invites bids until May 8 on general contract for erection of exchange; 8 stories; fireproof; steel, stone and terra cotta; elevators and stairways in separate fireproof enclosures; plans provide for smokeproof stairway separate from building; cost \$325,000; plans by P. Thornton Marye, Candler Bldg., Atlanta, Ga.; let steel contract to Chesapeake Iron Works, Sevren and Bush Sts., Baltimore, Md. (Noted in Jan.)

Mo., Kansas City.—Trust Building Co., D. E. Seay, V.P., will remodel third, fourth and fifth floors of Trust Building for use of Western Union Telegraph Co.; cost reported at \$11,000; plans by C. D. Hill & Co., Dallas, Tex.; W. H. King, Dallas, Contr.

S. C., Belton.—Southern Bell Telephone & Telegraph Co. (main office, Atlanta, Ga.) will improve plant; cost \$400.

S. C., Gaffney.—Piedmont Telephone & Telegraph Co. contemplates improvements to include installation of latest model telephones and exchange; estimated cost \$20,000.

Tenn., Chattanooga.—Cumberland Telephone & Telegraph Co. plans to expend \$850,000 to rebuild and equip plant, including placing of wires under ground and erection of fireproof exchange building.

Tenn., Burkburnett.—Burkburnett Telephone Co., capital \$10,000, incptd. by W. T. Willis, J. A. Staley and S. W. Graham.

Tenn., Vickery.—Texas Telephone Engineering Co., I. H. Gaither, Gen. Mgr., has franchise to construct telephone system.

TEXTILE MILLS

Ala., Scottsboro.—City, W. C. Maples, Clk., will issue \$5000 bonds to extend water mains (2-in. galvanized pipe) about 15,000 ft. to connect additional supply from mountain springs.

Ark., Arkansas City.—Lambe & Denmarke Light & Water Co. contemplates installing centrifugal pumps of from 300 to 400 gal. per min. capacity, motor to drive pump, 6-in. cast-iron pipe, etc. (See Electric Plants.)

Ark., Bentonville.—City is having plans prepared for improving water-works and electric-light plant; cost \$20,000; A. C. Moore, Engr., Frisco Bldg., Joplin, Mo.

Ark., Morrillton.—Arkadelphia Light & Power Co., Arkadelphia, Ark., let contract Layne & Bowler Co. (main office, Houston, Tex.), H. B. Allen Sickel, Local Mgr., to drill wells for water supply.

Ky., Jackson.—Malcolm H. Holliday, Harg's Commercial Bank Bldg. (lately noted, with

mill addition; 3 stories, 231x100 ft., warehouse; brick walls; gravel roof; cost \$30,000; Frank A. Pierce, Contr., Columbus; awarded contract for 20,000 spindles, accompanying looms and other machinery. (Lately noted letting contract to Frank A. Pierce, etc.)

Ga., Gainesville.—Hosiery.—Merck-Hetrick Mfg. Co. will greatly increase capacity of mill.

Ga., Jonesboro.—Hosiery.—Jonesboro Mfg. Co. has final plans and specifications for plant; build 100x50-ft. mill; inside brick construction; erect frame dyehouse; contracted for 32 knitting machines, and will increase to 100; use sulphur black; bleach and finish; daily capacity 500 to 600 doz. pr. hose; plans by T. W. Woodhous, Route 2, Villa Rica, Ga. (Noted in Apr. as to build mill, etc.)

Ga., Lagrange.—Cotton Products.—Hillside Cotton Mills will build addition to weave shed; Dallas-Robert Co., Arch., Candler Bldg., Atlanta, Ga.

Miss., Gulfport.—Waterproof Fabrics.—Skinner Waterproofer Co., capitalization \$300,000, incptd. by W. A. Skinner and M. R. Brucker, Engr., Victoria, Ky.; construct brick building; install machinery to waterproof fabrics and manufacture same into garments.

N. C., Bolivia.—Knit Goods.—W. H. Heffner is reported to establish knitting mill.

N. C., Concord.—Cotton Cloth.—Locke Cotton Mill will increase capital and improve plant.

N. C., Gastonia.—Cotton Yarn.—Groves Mill incptd. by L. F. Groves, Secy.-Treas. of Flint and Arlington Mills; H. H. Groves, L. L. Jennings, J. R. Withers and W. C. Withers; build 12,000-spindle cotton-yarn mill.

N. C., Gastonia.—Cotton Goods.—Osceola Mills, capital \$200,000, incptd. by W. T. Rankin, A. G. Myers and R. G. Rankin. (W. T. Rankin and associates lately noted to build mill.)

N. C., High Point.—Hosiery.—High Point Hosiery Mills will build 3-story annex costing \$20,000, and additional 4-story building costing \$10,000; brick construction.

N. C., Rockingham.—Print Cloth.—Steele's Mills write to Manufacturers Record: "Will add 17,000 spindles and 400 looms; will build weve shed suitable for 1000 looms." Wires Manufacturers Record: "Have made no contracts or fully decided upon details for enlarging; are considering same."

N. C., Rutherford.—Cotton Yarn.—S. B. Tanner, K. S. Tanner and others will build cotton mill; 250x75-ft. building; 5400 spinning spindles, 3168 twister spindles, etc.

N. C., Salisbury.—Mercerized Towels.—Cotton Mills, capital \$50,000, incptd. by T. B. Marsh, F. J. Murdoch and others; will erect building; brick construction; install 50 looms to weave mercerized towels; purchased machinery.

Tenn., Chattanooga.—Knit Underwear.—Floyd M. Murphy, Gen. Mgr. Chickamauga Knitting Mills, is reported to establish knit-underwear mill.

Tenn., Knoxville.—Knit Goods.—L. D. Tyson, Prest. Knoxville Cotton Mills, is reported to establish knitting mill.

Tenn., Knoxville.—Knit Underwear.—Tennessee Mills, capital \$100,000, chartered by C. L. Leonhardt, S. W. Duggan, T. A. Wright, C. M. Tyson and Irvyn S. Saxon; will remodel buildings and install underwear knitting machinery.

Tenn., Loudon.—Hosiery Yarn.—Loudon Hosiery Mills will erect 3-story 200x60 ft. addition; brick mill construction; cost \$25,000; W. H. Sears, Archt., Chattanooga. (Reported in Mch. as contemplating building 5000-spindle hosiery yarn mill.)

WATER-WORKS

Ala., Scottsboro.—City, W. C. Maples, Clk., will issue \$5000 bonds to extend water mains (2-in. galvanized pipe) about 15,000 ft. to connect additional supply from mountain springs.

Ark., Arkansas City.—Lambe & Denmarke Light & Water Co. contemplates installing centrifugal pumps of from 300 to 400 gal. per min. capacity, motor to drive pump, 6-in. cast-iron pipe, etc. (See Electric Plants.)

Ark., Bentonville.—City is having plans prepared for improving water-works and electric-light plant; cost \$20,000; A. C. Moore, Engr., Frisco Bldg., Joplin, Mo.

Ark., Morrillton.—Arkadelphia Light & Power Co., Arkadelphia, Ark., let contract Layne & Bowler Co. (main office, Houston, Tex.), H. B. Allen Sickel, Local Mgr., to improve water supply.

Ky., Jackson.—Malcolm H. Holliday, Harg's Commercial Bank Bldg. (lately noted, with

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others, to incorporate company), is proceeding with plans to organize company to install water system. (See Machinery Wanted—Water-works Materials, etc.)

Md., Centerville.—City plans to construct water-works; has Legislature's authority to issue bonds. Address The Mayor.

Miss., Baldwin.—City, W. A. Stocks, Mayor, engaged Xavier A. Kramer, Magnolia, Miss., as Consult. Engr. for water-works improvements and electric-light system; plans and specifications to be ready in 30 days. (\$10,000 bonds lately noted voted.)

Mo., Plattsburg.—City is reported to have plans for water-works; cost \$35,000; E. B. Murray, Engr., 920 Walnut St., Kansas City, Mo.

N. C., Lillington.—City voted bonds to construct water-works; let contract to J. E. McCrary Co., Engr., Atlanta, Ga.; capacity 1,500,000 gals.; tank and tower; cost \$35,000. (Bids lately noted.)

Okla., Blackwell.—City voted \$32,000 bonds for water-works extensions, \$10,000 for electric-light extensions and \$18,000 for storm sewers; plans and specifications being prepared by Benham Engineering Co., Oklahoma City; date for construction bids not set; probably let contract in May.

Okla., Commerce.—City will construct water-works system; voted bonds; purchased 5-gal. tank to be elevated on 125-ft. tower, giving pressure of 55 lbs. at base of structure. Address The Mayor.

Okla., Kendall.—Town votes May 2 on \$30,000 bonds to construct water-works; C. W. Johnson, Prest. Board Town Trustees; Geo. H. Coe, Town Clerk.

Okla., Oklahoma City.—City votes May 20 on \$1,500,000 bonds to construct water-works; Guy V. McClure, City Engr., estimates cost at \$1,002,000. (Full details lately noted.)

Okla., Pauls Valley.—City will construct water-works; issued \$16,000 bonds. Address The Mayor.

Tenn., Lenoir City.—City let contract Wadrip Construction Co., Knoxville, at \$665 to repair and improve water-works; betterments will include concrete lining for 1,250,000-gal. settling basin; J. A. Switzer, Engr., Knoxville; Robt. L. Hatfield, Secy. Water-works Commission. (Noted in February.)

Tenn., Northport.—Northport Water-Works Co. organized by J. R. Stokelt and others; will construct water-works; cost \$10,000.

Tex., Barstow.—Barstow Public Service Co. will expend \$200,000 to install water-works with 800,000 gals. daily capacity, 100-ton ice plant, and electric-light plant of 100 H. P.; date of opening bids not set; will construct reinforced concrete reservoir 100 ft. sq. and 10 ft. deep; Tri-State Engineering Co., El Paso, Tex., Engr.; noted in March. (See Machinery Wanted—Water-works Equipment, etc.)

Tex., Coleman Junction.—Gulf, Colorado & Santa Fe Ry., F. Merritt, Ch. Engr., Galveston, Tex., is considering plans for reservoir.

Tex., Lockhart.—Citizens' Light & Water Co. purchased plant of Southern Utilities Co., so will not build new plant; will make additions. (Lately noted.)

Tex., Seadrift.—City defeated \$300 bonds for water-works. (Lately noted.)

Tex., Troup.—City, J. W. Melton, Sr., Mayor, voted \$17,000 bonds for water-works construction. (Lately noted to vote.)

Tex., Tyler.—City purchased local water plant; will improve; issued \$250,000 bonds; John Durst, Chrmn. City Com. (Supercedes item in Jan.)

Va., Altavista.—City voted \$35,000 bonds to purchase water-works and sewer system of Altavista Land & Improvement Co. for \$19,000 and will improve. Address The Mayor. (Lately noted.)

Va., Narrows.—City, K. S. French, Mayor, postponed bond election for water-works; still contemplates water-works installation, but plans relative to source of supply are not determined.

Va., West Point.—City, H. Anderson, Mayor, will vote May 23 on \$30,000 bonds to extend water system, etc. (See Road and Street Work.)

W. Va., Mount Hope.—Mount Hope Electric Power & Water Co. applied for franchise to construct water-works, sewer system and electric-light plant.

Va., Richmond.—City plans \$2,000,000 bond issue for following: Water mains, \$108,000; water flume, including right of way, \$100,000; sewer construction, \$300,000; Shockoe Creek improvement, \$300,000; N. Dock St. improvements, \$25,000; purchase Feitig property, \$20,000; Phillips property, \$15,000; gas works, mains and improvements, \$109,550; electric-

light plant, \$50,000; sidewalk construction and alley improvements, \$50,000; Marshall Park improvements, \$10,000; Shelds Lake improvements, \$25,000; public schools, buildings and sites, \$582,175; Binford school addition, \$50,000; Colored Normans School site, \$25,000; city storehouse, \$35,000; Second Police Station, \$32,000; other public buildings and improvements, \$237,275; survey annexed territory, \$25,000; Chas. E. Bolling, City Engr.

W. Va., Hamlin.—City voted \$8000 bonds to construct water-works. Address The Mayor. (Noted in March.)

WOODWORKING PLANTS

Ala., Livingston—Heading, Veneer, etc.—Sumter Mfg. Co., capital \$30,000, Incptd. by A. C. Lainke, R. S. Bacon, J. A. Strand and A. W. Underwood.

Ark., Arkansas City—Cooperage.—B. J. Terry and J. C. Henry will build slack cooperage plant.

Ark., Jonesboro—Spokes.—Hicks & Rogers Mfg. Co. purchased Jonesboro Spoke Co.'s plant; will enlarge and improve.

Fla., Lake Wales—Crates.—Lake Wales Mfg. Co. (C. L. Morrison and J. O. Densford) will erect 75x150-ft. mill-construction building; install crate manufacturing machinery; daily capacity 2 to 4 cars crates.

La., Baton Rouge—Veneer.—Whitney & Williams (manufacturers of black-gum rollers) contemplate installing veneer machine.

N. C., Columbia—Caskets.—Columbia Casket Co., capital \$5000, Incptd. by F. S. Pinner and others.

N. C., Tarboro—Heading.—Lumber Mfg. & Heading Co., capital \$100,000, Incptd. by H. B. Kehlin, A. P. Peoples and L. W. Williams.

Tenn., Chattanooga—Boxes.—Acme Box Co. will increase capital from \$75,000 to \$110,000.

W. Va., Parkersburg—Staves.—Joel Beckwith, Box 126, plans to erect stave plant; secured timber acreage in Monroe county.

FIRE DAMAGE

Ala., Eutaw.—Stores of Bettie Wilburn, Tom Wesley and Albert Smith, and owned by Negro Mutual Aid Society; loss \$4000 to \$5000.

Ala., Morris.—Residences of Ern Rogers, J. A. Sharrift, Floyd Landrun and Mrs. Camp; loss \$6000 to \$10,000.

Ark., Batesville.—Mrs. Paxton Thomas' residence.

Ala., Sheffield.—Cooke & McTyer's cotton compress, including 2500 bales cotton; loss \$125,000.

Ark., Naylor.—R. W. Brady's store; loss \$7000.

Ark., Texarkana.—J. Clarence King's 2 residences.

Ark., Warren.—Coker Hotel; building owned by Bradley Lumber Co.; loss \$5000.

D. C., Washington.—Southern Ry. Co.'s general office building at Pennsylvania Ave., and 13th St.; loss \$200,000; W. H. Wells, Ch. Engr. Constr.

Fla., Jacksonville.—Morgan Lumber Co.'s mill, W. V. Gress, owner, was lately burned. (Previously incorrectly noted as Gress Mfg. Co.'s mill.)

Fla., New Smyrna.—Atlantic Hotel at Coronado Beach, owned by T. B. Denaree, Wilmere, Ky.

Ga., Atlanta.—Upchurch Grocery Co.'s store at 640 Gordon St.; loss \$8000.

Ga., Augusta.—Dwelling at 1522 Central Ave., occupied by W. S. Mathis and owned by A. J. Martin; loss \$3500.

Ga., Doerun.—Adams, Olliff & Co.'s store, owned by W. M. Smith, Cashr. Bank of Doerun.

Ga., Grange.—Mrs. J. P. McCoy's residence and 3 adjoining buildings; loss \$3000.

Ga., Rogers.—T. Z. Daniels' store; loss \$4000.

Ky., Dawson Springs.—C. A. Niles' residence and barn; loss \$3000.

Ky., Fairview.—Baptist church; loss \$500. Address The Pastor.

Ky., Middletown.—Puckett Creek Coal Co.'s power plant; loss \$10,000.

Ky., Oak Wood.—Baptist church. Address The Pastor.

Md., Annapolis.—Residences on Hollins property, 4 mi. from Annapolis, owned by John Hollins and Chas. Hollins, and materials for 3 dwellings which were to be erected by Henry S. Ripple, 7 Clay St., Baltimore; latter loss \$3000.

Md., Arundel-on-the-Bay.—Wahoo Club Bldg., loss \$6000; buildings owned by Thos. W. Smith (3 cottages), P. J. McIntyre, Mrs.

M. I. Weller, Mrs. Annie Talliday, T. L. Townsend, Dr. Geo. Heinicke, Louis Bockstyn, E. C. Graham and Dr. J. T. Hopkins, all of Washington, D. C.; Arthur Lee Bosley, Baltimore; total loss \$40,000.

Md., Salisbury.—Levin Pusey's residence and barn; loss \$3000.

Miss., Port Gibson.—Pope Drug Co.'s store. Miss., Vicksburg.—Rominger Bros. stables; residence of D. Lowenthal estate, New York.

Mo., Cedar City.—D. M. Allen's store and residence; loss \$3000.

Md., Ellicot City.—C. A. Gambrell Mfg. Co.'s flour mills; loss \$200,000 to \$300,000 on stock, machinery and buildings; offices, 104-12 Commerce St., Baltimore.

N. C., Hope Mills.—Graded School; loss \$10,000. Address School Trustees.

N. C., Pegues.—Everett Bros. Co.'s store; loss \$7000 to \$8000.

N. C., Reidsville.—Residences of Charles Fetzer and R. G. Gladstone.

N. C., Salisbury.—James Kestler's residence; Daniel Hartman's building; William Bost's residence; Herman Garwood and John Carter's residences, owned by John Mesler.

N. C., Wilmington.—Chadbourne Lumber Co.'s plant; loss \$50,000.

Okla., Durant.—Dwelling of Harry D. Neely, Cash, First National Bank; loss \$5000. S. C., Bamberg.—J. W. Price's residence.

S. C., Camden.—Kirkwood Stables, owned by Kirkwood Hotel Co.

S. C., Conway.—S. P. Hawes' residence

S. C., Cope.—R. K. Henery's residence.

S. C., Cope.—Residence, barn and out-houses of Mrs. W. L. Zeigler.

S. C., Eutawville.—Postoffice. Address Postmaster.

S. C., Florence.—S. R. Eddy's store at Kingsbury.

S. C., Spartanburg.—Southern Cotton Oil Co.'s mealhouse and fertilizer-mixing plant; loss \$10,000 to \$20,000.

Tenn., Clarksville.—Barns of Robt. Brown and H. B. Davis near Sango.

Tenn., Hickory Point.—Free Will Church. Address The Pastor.

Tenn., Neptune.—Methodist church. Address The Pastor.

Tex., Bierne.—Robinson Hotel; R. C. Biggadile's store and postoffice; Mrs. Mary Armhurst's confectionery; John Overton's building; Penn Lumber Co.'s building, etc.; loss \$12,000.

Tex., Creedmore.—Studer & Boring's store.

Tex., Eagle Pass.—Galveston, Harrisburg & San Antonio Ry.'s freight house, 20 box cars and several dwellings; loss \$100,000; H. F. Jonas, Engr. Structures, Houston.

Tex., San Marcos.—Mrs. J. H. Jones' residence; loss \$10,000.

Tex., Temple.—Central Hotel; loss \$7500.

Tex., Tyler.—R. Birdfield's four buildings; loss \$13,000 to \$15,000.

Va., Alexandria.—J. W. Mero's residence at Herbert Springs, 4 miles south of Alexandria; loss \$4000.

Va., Louisville.—W. R. Beckley's stable; Dick Trice's residence; Alfred Butler's tobaccohouse.

Va., Portsmouth.—Beazley & Blanford's building; loss \$6500.

Va., Richmond.—Building at 11-13 N. 12th St., owned by Percy Loth, Waynesboro, Va.; loss \$8000 to \$9000.

W. Va., Beckley.—Residences of Albert Rogers and Henry Mitchell.

W. Va., Logan.—Guyan Machine Shop, loss \$5000; G. D. Woolcock's residence, loss \$5000.

DAMAGED BY STORM

Ky., Lexington.—Dr. S. H. Halley's two tobacco barns; loss \$5500.

Ky., Louisville.—Warehouses and other buildings at J. B. Wathen's distillery, loss \$50,000; Glencoe Distillery's warehouses and other buildings, loss \$30,000; Sunnybrook Distillery's warehouses and other buildings, loss \$25,000; Ten Broek Tire Co.'s building, loss \$3000; street-car barn, loss \$5000.

Tenn., Clarksville.—Barns of Robt. Brown and H. B. Davis near Sango.

Tenn., Hickory Point.—Free Will Church. Address The Pastor.

Tenn., Neptune.—Methodist church. Address The Pastor.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Fla., Miami.—J. N. Chamberlain will erect store and apartment-house.

Fla., St. Petersburg.—Dr. F. W. Wilcox will remodel Chautauqua Hotel for stores and apartments. (See Stores.)

Ga., Atlanta.—Mrs. M. C. Fields will erect apartment-house; 2 stories; brick-veneer; composition roof; wood floors; gas steam heat; cost \$8000; bldgs. opened about May 1. Address Archts. (See Machinery Wanted—Marbleoid Flooring.)

Tex., Houston.—John H. Freeman, trustee, purchased site for client who will probably erect store and apartment building. (See Stores.)

Va., Richmond.—Chas. H. Saelzer and H. Metzger have plans for 3-story brick apartment-house on Addison St.; cost \$20,000.

Va., Richmond.—H. A. Phillips will erect apartment-house at Allison and Park Aves.; 3 stories; brick; cost \$21,000.

Va., Richmond.—A. N. Roberts will erect 2-story frame double-flat building; cost \$5000.

Va., Staunton.—N. C. Watts will convert residence in Madison Pl. into apartment-house.

ASSOCIATION AND FRATERNAL

Ala., Montgomery.—Ancient Free and Accepted Scottish Rite Masons will erect Scottish rite cathedral.

La., Monroe.—Western Star Lodge No. 24, William M. Washburn, Chrmn. Building Com., will erect Masonic Temple and store building; 3 stories; 60x140 ft.; 2 stores on first floor; Masonic temple above; fireproof; built-up asbestos roof; reinforced concrete floors; vacuum steam heat; electric lights; push-button electric elevator; cost \$60,000; terra-cotta on both street fronts; floors of cork tile, Ceramic tile and cement; interior finish probably gum; ornamental plaster cornices, pilasters and columns; plans by Mann & Stern, Little Rock, and J. W. Smith, Associate Archt., Monroe; ready for bids in about 3 or 4 weeks. Address Mann & Stern; building let in one contract. (Lately noted.)

Md., Baltimore.—Gibbons Guild is having plans prepared by F. E. Tormey, 72 Gunther

Bldg., Baltimore, for addition to building at 29th St. and Hampden Ave.; 23x37 ft.

Md., Baltimore.—Santa Maria Council, Knights of Columbus, has plans by Flournoy & Flournoy, 1512 H St. N. W., Washington, D. C., for improvements to building at Canton Ave. and 1st.; will raze walls of present structure, which is 20x112 ft., and extend building line to provide frontage of 40 ft.; erect additional story; Spanish style; assembly-room 36x77 ft.; cost \$15,000.

N. C., Greensboro.—Y. M. C. A. will not erect building, as lately reported.

Okla., Norman.—Sigma Alpha Epsilon Fraternity has plans by Layton & Smith, Oklahoma City, for \$15,000 fraternity building.

Tex., Beaumont.—Y. M. C. A. does not plan to erect building, as lately reported.

BANK AND OFFICE

Ala., Fairhope.—Dr. C. L. Mershon will erect store and office building. (See Stores.)

Ark., Wynne.—St. Louis, Iron Mountain & Southern Ry., E. A. Hadley, Ch. Engr., St. Louis, will erect office building; cost \$8000.

Fla., Lakeland.—Lakeland Gas Co. will erect building.

Fla., Miami.—Fidelity Bank & Trust Co. is having plans prepared by August Geiger, Miami, to remodel bank and office building; 50x90 ft. or more; concrete and brick; flat and tile roof; wood and tile floors; cost \$15,000 to \$20,000. Address Owner. (Lately noted.)

Fla., St. Petersburg.—Welsh Development Co. will erect building, probably for stores and offices. (See Stores.)

La., De Ridder—Hudson River Lumber Co. will erect store and office building. (See Stores.)

La., De Ridder.—A. J. Armstrong, Shreveport, La., will erect store and office building. (See Stores.)

Miss., Corinth.—Harry Cross, Booneville, Miss., will not erect office building as lately reported.

Miss., Shubuta.—Geo. S. Weems will erect bank, office and store building. (See Stores.)

Mo., Kansas City.—Trust Building Co. will remodel and erect addition to building at 801-7 Main St.; cost \$11,000.

N. C., Bridgeton.—Bank of Bridgeton will erect bank and office building; 25x50 ft.; 2 stories; brick; metal roof; tile and wood floors; stoves; city electric lighting; construction under Bank Supervisor will begin in May; cost \$3500 to \$4000. Address Dr. B. B. Smith. (Lately noted.)

Tenn., Memphis.—Thomas J. Turley of Turley & Nall is reported interested in erecting 3-story office building on Gaston Hotel site.

Tenn., Newport.—First National Bank will erect building to cost about \$15,000; details not decided. Address J. A. Susong, Prest. (Lately noted.)

Va., Clifton Forge.—Clifton Forge National Bank will erect bank and office building; bids opened Apr. 25 and 26; contractors estimating are John T. Wilson Co., Travers-Wood Co., Fulton Brick Co., all of Richmond, Va.; W. H. Fissell & Co., 1328 Broadway; F. W. Minter & Co., 115 Broadway; Andrew J. Robinson Co., 123 E. 23d St., all of New York; Dixie Lumber Co., E. A. Parish Co., both of Charlottesville, Va.; H. D. Watts Co., Garrett Bldg., Baltimore; plans by Alfred C. Bosson, 366 5th Ave., New York, call for 2-story structure; limestone and terra-cotta; cost \$40,000. (Lately noted.)

Va., Norfolk.—Union Mission will erect building to contain bank, etc. (See Churches.)

W. Va., Martinsburg.—People's Trust Co. will improve building.

W. Va., Martinsburg.—Citizens' National Bank will improve building at cost of \$50,000.

CHURCHES

Ala., Selma.—First Baptist Church will erect addition to seat 450; cost \$10,000. Address The Pastor.

Ark., Jonesboro.—First Methodist church will erect parsonage; cost \$5000. Address The Pastor.

Ark., Jonesboro.—First Christian Church contemplates erecting addition; cost \$2500 to \$4000. Address The Pastor.

Ark., Siloam Springs.—Baptist church, Rev. M. M. Smith, Pastor, will expend \$4000 to remodel building.

Ark., Walnut Ridge.—Methodist church, Rev. Amos B. Halton, Pastor, has plans by J. J. Baldwin, Anderson, S. C., for building at East and Second Sts.; about 80x120 ft.; brick and wood; bowl floor; cost \$15,000. Address The Pastor. (Lately noted.)

Ga., Cochran.—Methodist Episcopal church, South, let contract to Randall & Edwards to erect building; 2 stories; 65x65 ft.; ordinary construction; asphalt shingle roof; warm-air heat; cost \$10,000; Chas. W. Carlton, Archt., Lagrange, Ga. (Lately noted.)

Ga., Decatur.—Methodist church, Rev. Frank Quillian, Pastor, will enlarge building by erection of wings on each side; stone; cost \$8000; also install \$3000 pipe organ.

Ga., Savannah.—Baptist church will erect building in Springfield Terrace, West Savannah; J. W. Campbell interested.

Ga., Sparta.—Baptist church will erect building. Address The Pastor.

Ky., Louisville.—West Louisville Evangelical Church will erect 1-story brick-veneer building; cost \$8000; H. Walters, Archt., Louisville.

La., New Orleans.—St. Louis Cathedral will erect temporary frame building and later repair Cathedral; Rev. Father F. Racine, Pastor.

Md., Baltimore.—Old St. Paul's P. E. Church, Rev. A. B. Kinsolving, Rector, will rebuild organ and expend \$25,000 for Guild House Improvements.

Miss., Clarksdale.—Methodist church plans to erect \$40,000 building; H. H. Hopson, Chrnn. Building Comm.

Mo., Joplin.—Baptist church will erect parsonage. Address The Pastor.

N. C., Scotland Neck.—First Baptist Church, Rev. R. A. McFarland, pastor, has plans by C. Gadsden Sayre, Anderson, S. C., and opens bids about May 15 to erect building; 50x90 ft. or more; concrete and brick; flat and tile roof; wood and tile floors; cost \$15,000 to \$20,000. Address Owner. (Lately noted.)

Okla., Bartlesville.—L. H. Babcock is preparing plans for addition to edifice of Baptist congregation; cost about \$5000.

Okla., Henryetta.—First Baptist Church has plans by Hawk & Parr, Oklahoma City, for building; 2 stories and basement; 56x83 ft.; cost \$16,000. (Noted in March.)

Okla., Shamrock.—Baptist church, Rev. Mr. Garrett, pastor, plans to erect building.

Tenn., Columbia.—Presbyterian church will erect building; stone; cost \$40,000; C. K. Colley, Archt., Nashville, Tenn.

Tenn., Kingsport.—Carrere & Hastings, 45th and Vanderbilt Ave., New York, are preparing plans for church on Broad street; 1 story and basement with tower; 74x78 ft.; face-brick walls; wood construction; slate roof; wood beams and flooring; hot-air furnace; electric lighting; cost \$14,000. (Lately noted.)

Tenn., Nashville.—Baptist church has plans by Marc & Holman, Nashville, for building; slate roof; steam heat; plans ready about May 1.

Tenn., Parsons.—Baptist Church has plans by O. E. Buckner, Parsons, for building on Main St.; 50x70 ft.; cost \$4000; bids opened May 15; construction to begin latter part of May. Address C. S. Thomas, Parsons. (Lately noted.)

Tenn., Springfield.—Methodist Episcopal church, South, will erect building; brick; steam heat; metal or slate roof; contract to be let as whole; plans by Thos. W. Gardner and Edw. E. Dougherty, Archts., Nashville, ready about May 5. (Lately noted.)

Tenn., Anna.—Methodist church will remodel building and not erect new structure as lately noted. Address G. F. Jones.

Tenn., Barstow.—Presbyterian church will erect brick building; cost \$10,000. Address The Pastor.

Tenn., Paris.—First Baptist congregation, Rev. William Kendall, pastor, plans to rebuild structure damaged by fire; cost \$50,000.

Tenn., Paris.—Congregational church, Rev. J. B. Flacks, Pastor, will let contract to Walter White, Paris, to erect building lately noted; 70x40 ft.; brick; metal tile roof; hot-air heat; electric lights; cost \$10,000. Address The Pastor. (See Machinery Wanted—Heating; Seating; Fans; Piano and Organ.)

Tenn., Harrisonburg.—Harrisonburg Baptist church, Rev. W. F. Watson, Pastor, will erect \$25,000 building.

Tenn., Norfolk.—Union Mission, H. H. Kratzig, Supt., will erect mission building; plans include restaurant, bank, dormitories, etc.

Tenn., Richmond.—Rev. W. H. Blanch applied for permit to erect building for colored congregation on 7th St.; 2 stories; brick and frame; cost \$3200.

Tenn., W. Va., Huntington.—West Huntington M. E. Church, Rev. B. W. Roberts, pastor, is having plans prepared by Meany & Sweeney, Huntington, for building; cost \$15,000. (Noted in Feb.)

CITY AND COUNTY

S. C., Beaufort.—Library.—City has plans by J. H. Sams, Columbia, S. C., for Carnegie library; tapestry brick; stone trimmings; 52x52 ft.; cost \$7000.

Okla., Enid—Hall.—City defeated \$100,000 bonds to erect convention hall. (Lately noted.)

S. C., Orangeburg—Jail.—County Comr., J. Leroy Dukes, Clerk, receive bids until May 5 to remodel jail, including excavating basement; reinforced concrete floor and roof; reinforced concrete stairs, partitions, etc.; cutting new windows; placing new gratings and doors, but no new cellwork at present; plans and specifications at office F. H. & J. G. Cunningham, Archts., Greenville, S. C. (Lately noted.)

Tenn., San Angelo—Jail.—Tom Green County Comr. will erect jail.

Va., Richmond—Storehouse, Police Station, etc.—City plans to issue \$35,000 bonds for city storehouse; \$33,000 for second police station; \$23,275 for other permanent public buildings and improvements. (See Water-Works.)

W. Va., Williamson—Jail.—County Comr. are having plans prepared by Verus T. Ritter, Huntington, W. Va., for jail; cost \$30,000. (Noted in March.)

COURTHOUSES

Ga., Lyons—County opens bids May 3 for repairs to courthouse; plans and specifications on application to S. I. Hussey, Chrnn.

Tenn., Tahoka.—Lynn county, P. H. Northcross, Chk., receives bids until May 22 to erect 4-story fireproof courthouse; plans and specifications on application.

DWELLINGS

Ala., Birmingham.—S. R. Atkins will repair frame structure at 1613 15th Ave.; cost \$4500.

Ala., Opelika—Opelika Cotton Mills contemplate erecting additional cottages for operatives.

D. C., Washington.—Albert C. Day will erect 1-story frame dwelling at 1316 Geranium St.; cost \$4000.

D. C., Washington.—Harry A. Kite, 1338 G St. N. W., has plans by Geo. T. Santmyers, 215 Kenois Bldg., Washington, for five 2-story brick dwellings at 618-26 Hobart St. N. W.; cost \$13,500; construction by owner.

D. C., Washington.—Harry Wardman, 1430 K St. N. W., is reported to erect residence.

D. C., Washington.—H. R. Howenstein has plans by W. R. Talbott, 1314 F St. N. W., Washington, for three 2-story brick dwellings at 749-53 12th St. S. E.; cost \$7500; construction by owner.

D. C., Washington.—H. L. Breuninger, 5500 16th St. N. W., will erect 2 to 4 dwellings; tapestry brick, tile and stucco; slate roofs; 12 rooms; 3 or 4 baths; cost \$30,000.

D. C., Washington.—Winfield Preston, 1718 9th St. N. W., has plans by C. C. Jones, Riggs Bldg., Washington, to erect 6 dwellings at 110-20 Varnum St. N. W.; cost \$22,000; construction by owner.

Fla., Clearwater.—L. R. Springer will erect 5-room cottage.

Fla., Leesburg.—W. R. Van Sant, Ashland, Ky., is reported to erect residence.

Fla., Orlando.—K. M. White, Crescent City, Fla., will erect residence.

Fla., Oxford.—G. B. A. Kinard will erect store and residence. (See Stores.)

Fla., Pensacola.—B. L. Brooks will erect residence; 34x54 ft.; bungalow style; frame; asphalt shingle roof; gas and electric lights; William W. Alfred, Archt., Box 271, Pensacola.

Fla., Pensacola.—Will Madison will erect residence; 30x64 ft.; bungalow style; frame; asphalt shingle roof; electric lights; William W. Alfred, Archt., Box 271, Pensacola.

Fla., St. Petersburg.—R. H. Elliston, Williamson, Ky., will erect dwelling.

Fla., Tampa.—F. F. Coyan will erect \$3000 residence.

Fla., Tampa.—H. D. McRea will erect \$4000 residence.

Fla., Tampa.—Susan C. Giddens will erect \$2500 residence.

Ga., Albany.—Crawford Mays will erect residence; 2 stories; brick; hollow tile back-ging; green tile roof; oak floors; vapor heat; tile porches; cost \$3000; bids opened about May 10; A. Ten Eyck Brown, Archt., Forsyth Bldg., Atlanta.

Ga., Albany.—E. B. Young, Cash, Georgia National Bank, will erect residence; 2 stories; hollow tile; stucco interior; red tile roof; oak floors; tile porches; vapor

bent; cost \$9000; A. Ten Eyck Brown, Archt., Forsyth Bldg., Atlanta.

Ga., Atlanta.—E. White will erect 2-story frame dwelling; cost \$5000; day labor.

Ga., Atlanta.—H. E. Maddox will erect 1-story bungalow; cost \$4750.

Ga., Atlanta.—E. White will erect \$5000 ten-room bungalow.

Ga., Atlanta.—Strother C. Fleming has plans by C. E. Fraser, Candler Bldg., Atlanta, for dwelling; 2 stories; 44x40 ft.; frame; shingle roof; heating, \$300; construction begins Apr. 25. (Lately noted.)

Ga., Atlanta.—Mrs. Nora Webb will erect residence; 2 stories; brick veneer, stucco and half timber; asphalt shingle roof; hardwood floors; tile bath; furnace heat; electric lights; cost \$3000; Lelia Ross Wilburn, Archt., 305 Peters Bldg., Atlanta.

Ga., Atlanta.—W. S. Arcenf is having plans prepared by Lelia Ross Wilburn, 305 Peters Bldg., Atlanta, for residence; 2 stories; frame; brick foundation; shingle roof; hardwood floors; tile bath; electric lights; cost \$3000. (Lately noted.)

Ga., Augusta.—A. J. Martin Co. will erect residence; 2 stories; frame; pressed brick foundation; shingle roof; hardwood floors; furnace heat; electric lights; cost \$450; Lelia Ross Wilburn, Archt., 305 Peters Bldg., Atlanta.

Ga., Augusta.—B. T. Lowe has plans by G. Lloyd Preacher, Augusta, for residence on Stovall St.; cost \$5000. (Lately noted.)

Ga., Augusta.—Thomas Barrett, H. H. Alexander, Mrs. Harriett Gould Jeffries, William H. Barrett and John Harper Davison are reported to erect residences to replace burned structures.

Ga., Columbus.—John M. Murrah has plans by T. W. Smith & Co., Murrah Bldg., Columbus, for residence; slate roof; tile baths; furnace heat; cost \$5000. (Noted in March.)

Ga., Columbus.—Ralph Edge has plans by R. Duncan, Columbus, for residence; brick veneer; probably metal shingle roof; hot water or hot-air heat; cost \$6000; bids opened within 6 weeks. (Lately noted.)

Ga., Decatur.—Guy Webb has plans by Lelia Ross Wilburn, 305 Peters Bldg., Atlanta, for residence; 2 stories; 9 rooms; frame; press brick foundation; hardwood floors; tile bath floor; furnace heat; electric lights; cost \$4000.

Ga., Griffin.—J. B. Mills will erect residence; 2 stories; frame; brick foundation; shingle roof; hardwood floors; electric lights; cost \$4000; Lelia Ross Wilburn, Archt., 305 Peters Bldg., Atlanta.

Ga., Oakland City, P. O. Atlanta.—W. H. Newman will erect bungalow; 1½ stories; brick veneer; stone foundation; hardwood floors; electric lights; cost \$200; Lelia Ross Wilburn, Archt., 305 Peters Bldg., Atlanta.

Ga., Rome.—Oscar McWilliams will erect residence; 2 stories; hollow tile and stucco; red tile roof; oak and the floors; vapor heat; garage; cost \$12,000; A. Ten Eyck Brown, Archt., Forsyth Bldg., Atlanta.

Ga., Savannah.—Lester C. Karow will erect residence; Italian style; stucco or brick; cost \$15,000; P. Thornton Mary, Archt., Candler Bldg., Atlanta.

Ga., Savannah.—H. D. Weed has plans by E. D. Young, Savannah, and lets contract about June 1 to erect residence; 2 stories and basement; hollow tile and brick veneer; reinforced concrete; 12 rooms; slate roof; hardwood floors; steam heat; cost about \$40,000.

Ga., Tallapoosa.—Gene Setser will erect dwelling.

Ky., Lexington.—Mrs. Jean D. Simcox will erect 2-story brick residence; cost \$3000.

Ky., Lexington.—W. R. Embry will erect 9-room brick-veneer bungalow; cost \$3000; J. V. Moore, Archt., Lexington.

Ky., Louisville.—G. H. Schweitzer will erect brick dwelling; cost \$3500.

Ky., Louisville.—H. C. Lea will erect brick-veneer dwelling; cost \$4000.

Ky., Shelbyville.—Chas. Randolph will erect \$5000 frame residence.

Ky., Shelbyville.—B. C. Allen will erect \$4000 residence.

Md., Baltimore.—Dr. Thos. R. Brown, 19 W. Biddle St., is having plans prepared by Laurence H. Fowler, 347 N. Charles St., Baltimore, for residence at Guilford.

Md., Baltimore.—Carter & Steffey, 18 E. Lexington St., will erect 22 dwellings on 33d St. near Calvert St.

Md., Baltimore.—Annex Construction Co. has plans by G. Bernard Lohmuller, 1735 N. Broadway, Baltimore, for 27 2-story dwellings, to cost \$30,000, on Whitridge Ave.

April 27, 1916.]

MANUFACTURERS RECORD.

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14x51 ft.; brick; porch fronts; slate roofs; gas and electric lights; construction by owner. Address Archt.

Md., Baltimore.—Frank Novak Realty Co., 201 Harford Ave., has plans by Callis & Callis, 2055 Kennedy Ave., for 27 2-story dwellings at 1601-1653 Norwood Ave.; cost \$2,400; iron-spot brick; 15x50 ft. each.

Md., Baltimore.—Wm. P. Bolton, 15 E. Fayette St., acquired 10 lots in Arbutus section and will improve; erect number of semi-detached 2-story dwellings, grade, provide streets, etc.

Md., Govans.—Louis Lambrecht, 42 Gunther Bldg., Baltimore, will erect 8 dwellings on Richmond Ave.; semi-detached style; porch fronts.

Md., New Market.—Mrs. Julia A. Hammond will erect residence.

Miss., Carksdale.—W. B. Nichols has plans by Chas. O. Pfeil, Memphis, Tenn., for residence; 2 stories; brick veneer.

Miss., Vicksburg.—R. C. Wilkerson will erect dwelling on South Cherry St.

Mo., Joplin.—M. B. Davidson and S. F. Jones, 502½ Main St., will erect 4 dwellings at 2730, 2905-09 Joplin St.; 5 rooms each.

Mo., Joplin.—R. M. Sheppard will erect \$6000 residence.

Mo., Kansas City.—W. F. Ingham, Prest. Ingham Lumber Co., will erect residence.

Mo., Kansas City.—G. W. Tourtellot will erect residence; 52x23 ft.; wood and stucco; shingle roof; wood floors; cost \$8000; hot-water heat; Shepard & Belcher, Archts., 300 Reliance Bldg., Kansas City.

Mo., Kansas City.—J. Elmer Jarman will erect 3 six-room bungalows.

Mo., Kansas City.—Harry Newcomer, W. H. A. Sage, F. B. Northcott and O. I. Brockett are reported to erect residences.

Mo., Kansas City.—H. T. Poindexter, 807 Wyandotte St., will erect residence in Mission Hills.

Mo., Kansas City.—E. McGrade will erect residence; 29x31 ft.; wood and stucco; shingle roof; wood floors; hot-water heat; cost \$5000; Shepard & Belcher, Archts., 300 Reliance Bldg., Kansas City.

Mo., Kansas City.—E. H. Robbins will erect 6 one-story brick-veneer dwellings; cost \$9600.

Mo., Kansas City.—H. R. Ostram will erect 4 one-story frame dwellings; cost \$8000.

Mo., Kansas City.—N. M. Cameron will erect 5 1½-story stucco dwellings; cost \$12,500.

Mo., Kansas City.—G. P. Tebberkamp will erect 2 1½-story stucco dwellings; cost \$4750.

Mo., Kansas City.—J. C. Pickett will erect 2-story stucco dwelling; cost \$5000.

Mo., Kansas City.—L. R. Wright will erect 2-story frame dwelling.

Mo., Kansas City.—G. C. Crow will erect two 1½-story frame dwellings; cost \$4000.

Mo., Kansas City.—Shepard & Belcher will erect 2-story brick and hollow-tile residence; cost \$10,000.

Mo., Kansas City.—John C. McCauley will erect 2-story brick and stucco-veneer residence; cost \$5000.

Mo., Kansas City.—J. S. Bailey will erect residence; 69x33 ft.; wood, stucco and brick; shingle roof; wood floors; hot-water heat; cost \$18,000; Shepard & Belcher, Archts., Kansas City.

Mo., Kansas City.—Mrs. Geo. W. Bowen will erect 2-story brick dwelling; cost \$16,000.

Mo., Kansas City.—A. P. Osborn, 201-05 Shukert Bldg., will erect residence; about 60x30 ft.; tile and stucco; shingle roof; oak floors; hot-water heat; cost \$15,000; Shepard, Farrar & Wiser, Archts., Kansas City. (Lately noted.)

Mo., Kansas City.—F. H. Michaelis will erect two 2-story stucco dwellings; cost \$9000.

Mo., Kansas City.—Wells Bros. will erect two 2-story frame dwellings; cost \$4200.

Mo., Kansas City.—J. E. Goodrich will erect 2-story stucco dwelling; cost \$14,000.

Mo., Kansas City.—A. J. Smith will erect 7-room 2-story frame dwelling at 319 Edgefield St., cost \$3000; 8-room 2-story frame structure at 223 N. Windomere St., cost \$3800, and 8-room 2-story frame building at 1912 Moser St., cost \$3800.

Mo., Kansas City.—H. P. Self will erect 8-room 2-story dwelling at 318 N. Rosemont St. and 7-room 2-story frame dwelling at 418 N. Rosemont St.; total cost \$9000.

Mo., Kansas City.—M. E. Miller will erect 8-room 2-story tile dwelling at 4918 Gaston St.; cost \$4500.

Mo., St. Louis.—C. I. Swinhart, 2357 Clarence Ave., will erect residence; 23x34 ft.; brick; slate roof; hardwood and yellow pine.

flooring; cost \$3000; hot-water heat, about \$300; plans and construction by owner. (Charles Gundlach lately noted to erect this dwelling.)

Mo., St. Louis.—Chas. Schuler, 3949 Pennsylvania St., will erect 2-story dwelling; cost \$3000; construction by owner.

Mo., University, Sta. St. Louis.—Williams & Bland and Bush Burns Realty Co. will erect 3 residences on Harvard Ave., University City; bungalow type; 6 and 7 rooms; hardwood floors.

N. C., Asheville.—Dr. A. F. Cosgrove will erect three 5-room dwellings; cost \$500.

N. C., Badin.—Aluminum Company of America, Pittsburgh, Pa., will erect 300 dwellings; company wires Manufacturers Record: "Houses designed and constructed by our own force."

N. C., Rocky Mount.—R. L. Huffines will erect residence; 2 stories; frame; press brick foundation; slate roof; hardwood floors; tile baths; steam heat; electric lights; cost \$7000; Leila Ross Wilburn, Archt., 305 Peters Bldg., Atlanta.

N. C., Statesville.—C. D. Stevenson will erect bungalow.

N. C., Statesville.—Dr. R. S. McElvee will erect residence.

N. C., Statesville.—J. E. Deltz will erect bungalow.

N. C., Southern Pines.—Geo. E. Cook, New York and Southern Pines, will erect villa; bungalow type; 60x10 ft.; sun parlor; 5 bedrooms with baths; dining-room; kitchen, etc.; rough wood construction; garage and servants' quarters; sunken garden about 50 ft. long.

N. C., Wilson.—J. C. Eagles will erect 2 residences.

N. C., Wilson.—Marvin Edmundson will erect residence.

N. C., Wilson.—Sidney Borden will erect residence.

N. C., Wilson.—Ed Warren will erect residence.

Okl., Chickasha.—Lloyd Doughty contemplates erecting 2-story residence.

Okl., Oklahoma City.—Nichols & Chandler will erect two 2-story frame residences; cost \$8000.

Okl., Kansas City.—N. M. Cameron will erect 5 1½-story stucco dwellings; cost \$12,500.

Okl., Kansas City.—G. P. Tebberkamp will erect 2 1½-story stucco dwellings; cost \$4750.

Okl., Kansas City.—J. C. Pickett will erect 2-story stucco dwelling; cost \$5000.

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Okl., Kansas City.—John C. McCauley will erect 2-story brick and stucco-veneer residence; cost \$5000.

Okl., Kansas City.—J. S. Bailey will erect residence; 69x33 ft.; wood, stucco and brick; shingle roof; wood floors; hot-water heat; cost \$18,000; Shepard & Belcher, Archts., Kansas City.

Okl., Kansas City.—Mrs. Geo. W. Bowen will erect 2-story brick dwelling; cost \$16,000.

Okl., Kansas City.—A. P. Osborn, 201-05 Shukert Bldg., will erect residence; about 60x30 ft.; tile and stucco; shingle roof; oak floors; hot-water heat; cost \$15,000; Shepard, Farrar & Wiser, Archts., Kansas City. (Lately noted.)

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Okl., St. Louis.—C. I. Swinhart, 2357 Clarence Ave., will erect residence; 23x34 ft.; brick; slate roof; hardwood and yellow pine.

Tex., Austin.—A. Brundrett is having plans prepared by Edwin C. Kreisler, 820 Scarbrough Bldg., Austin, for residence; 1½ stories; frame; wood floors; shingle roof; electric fixtures; hot-air heat; cost \$4500.

Tex., Austin.—Theo. Low is having plans prepared by Kuehne, Chasey & Giesecke, Austin, for residence; brick veneer; composition roof; frame floors; hot-air heat; cost \$5000; bids opened about May 1. Address architects.

Tex., El Paso.—J. W. Phillips will erect 3 bungalows; cost \$3500 each.

Tex., El Paso.—Mawn Realty Co. will erect bungalow; cost \$4000.

Tex., Galveston.—Robt. J. Miller purchased site at 21st St. and Avenue N; contemplates erecting 2 dwellings.

Tex., Post.—R. E. Gilmore prepared plans for residence.

Tex., Ralls.—Harry Barlow will erect \$3000 residence.

Tex., San Angelo.—A. L. Lair has plans by H. M. Harvin, San Antonio, for residence; hollow tile; cost \$3500.

Tex., Sulphur Springs.—W. P. Harris will erect residence.

Tex., Sulphur Springs.—Mrs. H. E. Henderson will erect residence.

Va., Hopewell.—Atlantic Coast Realty Co., 215-16 Mechanics' Bldg., Petersburg, Va., will erect 30 4 and 5-room cottages; frame; tin roofs; contract let May 24; cost \$26,000; also erect 29-room hotel.

Va., Norfolk.—T. Wesley Hanbury will erect 2-story brick and frame residence; cost \$3700.

Va., Norfolk.—Charles Webster will erect brick and frame residence; cost \$700.

Va., Norfolk.—J. W. Baugher has plans by Louis R. Moss, Norfolk, for residence; 2½ stories; 10 rooms; stucco.

Va., Petersburg.—Tri-County Building Corp. has plans by Bishop & Greer, care of Atlantic Coast Realty Co., 215-16 Mechanics' Bldg., Petersburg, for 6, 7 and 8-room residences in Walnut Hill; shingle roof; hot-air heat; first 15 to cost about \$30,000; bids opened May 2. Address Atlantic Coast Realty Co.

Va., Richmond.—H. St. George Bryan is having plans prepared for \$50,000 residence in William Byrd Park; frame.

Va., Richmond.—Davis & Archer will erect brick dwelling; cost \$500.

Va., Richmond.—W. F. Kastelberg will erect 2-story frame dwelling; cost \$4193.

Va., Richmond.—W. L. Wills and Realty & Finance Corp. of Virginia will erect 4 frame dwellings; cost \$17,000.

W. Va., Huntington.—J. W. Lawton will erect dwelling.

W. Va., Welch.—Sam Polin, L. E. Woods, of Welch; O. J. Hunter, Davy, W. Va.; J. C. Saunders, Premier, W. Va., and Johnson Realty Co. will erect residences; slate and shingle roofs; brick floors; hot-water heat; concrete sidewalks; cost about \$6000. Address Mr. Polin.

W. Va., Welch.—J. H. Bradshaw has plans by C. O. Smith, Welch, for residence; 32.6x33.6 ft.; brick; asbestos shingle roof; hardwood floors; hot-water heat; city electric lights; cost \$5000. (Lately noted.)

GOVERNMENT AND STATE

Ark., Gillett—Postoffice.—A. L. France will erect 2-story frame building, 24x40 ft., for postoffice.

Miss., Belzoni—Postoffice.—H. H. Alexander will erect and equip postoffice building to be leased to Government; also erect 3 stores; completion by July 1.

Tex., Belton—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supvr. Archt., Washington, D. C., receives bids until June 5 to construct postoffice; drawings and specifications from custodian of site, Belton, and from Mr. Wetmore as above.

HOSPITALS, SANITARIUMS, ETC.

Fla., Leesburg.—Dr. Peyrl E. Watts will erect sanitarium main building of 16 rooms; also number of cottages.

S. C., Chester.—Dr. S. W. Pryor is having plans prepared by Chas. M. Robinson, Inc., Richmond, Va., for sanitarium.

Tenn., Chattanooga.—Erlanger Hospital Trustees will remodel left wing of building.

Tenn., Nashville.—Galloway Memorial Hos-

pital has \$270,000 available to complete hospital building. (Previously noted.)

Tex., Belton.—Dr. A. B. Crain will erect Belton Sanitarium; bids opened May 2; C. H. Page & Bro. Archts., Austin and Houston.

Va., Petersburg.—W. A. Ramsey, Chrmn., and E. P. Goodwyn, Com. Clk., receive bids to erect addition to smallpox hospital; plans and specifications at office of City Engr.

W. Va., Parkersburg.—City plans to erect hospital. Address The Mayor.

HOTELS

Fla., West Palm Beach.—Lake Park Hotel is reported to erect addition of 25 or 30 rooms.

Fla., West Palm Beach.—Mr. Studebaker of Studebaker Corp., South Bend, Ind., and Mr. Gleason are reported considering erecting hotel.

Va., St. Petersburg.—A. A. Isham will erect addition to Park House; 3 stories; also remodel residence to connect with new structure.

Ga., Chalybeate.—Robert S. Mills, LaGrange, Ga., will improve hotel.

Ky., Elizabethtown.—H. O. Williams, Wyatt Brownfield, J. B. Pierce and others are reported promoting erection of \$33,000 hotel.

Ky., Harlan.—J. S. Kelley will erect 2-story brick annex to Kelley Hotel; private bath and toilet to each room; hot and cold water connections; asbestos roof; steam heat; electric lights; 26x35 ft.; contain store; cost \$4000; W. P. Hubbard, Archt.; construction begins May 1.

Ky., Lexington.—Phoenix Hotel Co. will erect addition to hotel to provide 18 or 20 guestrooms and 2 stores; probably 4 stories.

Miss., Meridian.—Union Hotel Co., P. C. Steele of Bienville Hotel, Mobile, Prest., acquired Union Hotel; will erect annex to hotel and double capacity.

Mo., Kansas City.—L. L. Reitz will erect hotel on Armour Blvd.

Mo., Kansas City.—R. H. Norton, Hereford, Tex., is reported to erect 100-room hotel.

Mo., St. Louis.—Ben G. Vleth, Jefferson City, Mo., and Sidney Johnston purchased controlling interest in Boulevard Hotel Co., operating Washington Hotel; reported Forest City Building Co., owner, will erect 200-room addition to cost about \$300,000; will install baths in all rooms, etc.

N. C., Greensboro.—A. H. Gallaway, W. G. Tunnell of Guilford Hotel and B. H. Merrimon are interested in organization of company with \$100,000 capital to erect hotel on Guilford Hotel site. Mr. Merrimon wires Manufacturers Record: "Structure will be 6 stories; steel or reinforced concrete; site 148½x148½ ft.; no architect yet; cost \$250,000."

N. C., Barium Springs.—Barium Springs Co. organized with John B. Ross, Prest. and Treas.; Chas. A. Williams, V.P.; James O. Gardner, Secy.; will acquire Barium Springs property, develop same, install sanitary system of handling water and improve hotel.

Tex., Taylor.—R. J. Eckhardt is organizing company to erect \$50,000 hotel.

Tex., San Antonio.—T. F. Adams, Kansas City, Mo., and others are reported to erect 60-room hotel at Willow Springs.

Va., Hopewell.—Atlantic Coast Realty Co. will erect hotel. (See Dwellings.)

MISCELLANEOUS

Ark., Little Rock—Clubrooms.—Scipio Jones will erect building for clubrooms, etc. (See Stores.)

Fla., Fort Myers—Clubhouse.—Fort Myers Golf & Yacht Club will erect clubhouse, construct golf course, etc.

Fla., St. Petersburg—Clubhouse.—New England Tourist Assn., Dr. G. M. Randall, Prest. and Chrmn. of Building Comm., is promoting erection of clubhouse and auditorium to cost about \$20,000, exclusive of site; architect not selected.

Fla., Tampa—Clubhouse.—Palm Cela Golf Assn., James F. Taylor, Secy., invites plans for \$10,000 golf clubhouse. (Lately noted.)

Ga., Ingleside—Clubhouse.—Ingleside Country Club has plans by Nettz, Reid & Adler, Atlanta, for clubhouse; 1 story and basement; colonial style; dining-room, 23x40 ft., finished in paneled oak with beam ceiling; encased glass porch, 16x21 ft.; dance hall, 53x105 ft.; cost \$15,000.

Md., Baltimore—Clubhouse.—Gracur Club, Claude B. Whithy, Prest., 2203 Arunah Ave., acquired building at Carey and Baltimore Sts.; will remodel and improve.

N. C., Raleigh—Clubhouse.—Capital City Club has plans by P. Thornton Mayre,

Candler Bldg., Atlanta, to improve interior of clubhouse; cost \$30,000; bids being received.

N. C., Wilson—Community Building.—T. F. Pettus is interested in erection of community building; cost \$50,000 to \$100,000.

S. C., Bishopville—Fair.—Lee County Fair Assn. plans to improve fair building and erect additional structures.

S. C., Camden—Stable.—The Kirkwood, T. Edmund Krumbholz, Mgr. Dir., will erect livery and polo stable, 40 to 60 stalls and extra box stalls, to replace structure noted damaged by fire; frame; plank and cement flooring; electric lights; cost \$3000; Mitcham & Mitcham, Archts., Camden. Address T. Edmund Krumbholz.

S. C., Greenwood—Home.—Connie Maxwell Orphanage trustees will erect Mauldin Cottage; cost \$8000; J. E. Summers, Archt., Greenwood.

Tenn., Memphis—Fair.—Tri-State Fair Assn., Frank D. Fuller, Secy., plans to erect two buildings for livestock and remodel others; room under grandstand will be rearranged for automobile exhibit room.

Tex., Austin—Bathhouse.—G. J. Merritt, San Marcos, Tex., and Charlie Fentress of Fentress, Tex., will erect \$3000 bathhouse at Deep Eddy.

Tex., Austin—Skating Rink.—J. A. Greathouse will erect skating rink; cost \$4000.

Tex., Dallas—Fair.—State Fair of Texas, S. I. Munger, Dir., will erect addition to Made in Texas Building; also provide additional facilities for livestock section, etc.

Tex., Sherman—Clubhouse.—Woodlawn Country Club has plans by John Tullock, Sherman, for clubhouse between Sherman and Denison, Tex.; 72x100ft. (Lately noted.)

RAILWAY STATIONS, SHEDS, ETC.

Ark., Wynne.—St. Louis, Iron Mountain & Southern Ry. will erect office building. (See Bank and Office.)

Ky., Maysville.—Chesapeake & Ohio Ry., F. I. Cabel, Chief Engr., Richmond, Va., will erect depot.

Okla., Norman.—Oklahoma Ry. Co. will erect depot.

Tenn., Memphis.—Illinois Central Ry. Co., A. S. Baldwin, Chief Engr., Chicago, will construct stock and quarantine pens at Nonconnah Terminal Yards; cost \$6500.

Tex., Lockhart.—Missouri, Kansas & Texas Ry., L. F. Lonnblad, Ch. Engr., Dallas, will rebuild depot.

Tex., Wharton.—Gulf, Colorado & Santa Fe Ry., F. Merritt, Ch. Engr., Galveston, will erect passenger and freight station; cost \$22,000.

Va., Richmond.—Directors of Richmond, Fredericksburg & Potomac R. R., Wm. H. White, Prest., and Atlantic Coast Line R. R., J. E. Willoughby, Ch. Engr., Wilmington, N. C., selected Hermitage Golf Club grounds as location for proposed passenger station; cost about \$1,500,000. (Noted in March.)

SCHOOLS

Ala., Florence.—City votes May 18 on \$30,000 bonds to erect high school. Address The Mayor. (Lately noted to vote May 15.)

Ala., Foley.—Baldwin county, J. S. Lambert, Supt., plans to erect consolidated school; cost \$6000.

Fla., Arcadia.—County Board of Public Instruction will erect frame schools at Torrey, College Hill and Lake Branch; J. C. Bickley, County Supt.

Fla., Baldwin.—Board of Public Instruction, Jacksonville, will erect \$10,000 school building; F. A. Hathaway, Supt. of Public Instruction, Jacksonville.

Fla., Bonifay.—School Board, J. A. Smothers, Chmn., will erect high school building; about 85x132 ft.; brick; asbestos roof; wood floors; electric lighting; cost \$16,000; steam heat, \$1250 to \$1500; Archt. not selected. Address Mr. Smothers at Bonifay. (Lately noted.)

Fla., Daytona.—Daytona Educational & Industrial Training School for Negro Girls opens bids about May 15 to erect school; 108x126 ft.; ordinary construction; composition roof; steam heat; electric wiring; cost \$23,000; Talley & Summer Co., Archt., Jacksonville. (Lately noted.)

Fla., Jacksonville.—Board of Public Instruction opened bids to erect Northeast Springfield School; 8 rooms; O. P. Woodcock, Jacksonville, is lowest bidder at \$8,500; may have plans revised by R. A. Benjamin, Jacksonville, and call for new bids; W. B. Ittner, Consit. Archt., Board of Education Bldg., St. Louis. (Lately noted.)

Fla., Jacksonville.—Board of Public Instruction of Duval County receives bids until May 6 to erect 4-room brick school near Grand Crossing and 4-room school at Woodstock Park; until May 13 to erect 8-room auditorium school at 21st and Walnut Sts.; cost of first two structures \$10,000 each; latter, \$60,000; brick; concrete floors; tile and composition shingle roof; direct steam heat; Rutledge Holmes, Archt., Jacksonville. (Lately noted.)

Fla., Jacksonville.—DuVal County Board of Public Instruction rejected all bids to erect Murray Hill school; will consider new plans and call for new bids in about 2 weeks; one story; 4 rooms; brick walls and frame; asphalt strip shingle roof; wood floors; cost \$12,000; steam heating \$1000; Mellen C. Greeley, Archt., Baldwin Bldg., Jacksonville. (Lately noted.)

Fla., Pensacola.—School Dist. No. 5 votes May 15 on \$10,000 bonds to erect agricultural high school. Address Secy. Board of Public Instruction.

Fla., Sanford.—City will erect two schools; one 84x5 ft., 2 stories; other 60x64 ft., 1 story; brick; cost \$15,000 and \$5000, respectively; asphalt shingle roof; city gas heating; city electric lights; W. B. Camp, Archt., Jacksonville; bids opened May 22; plans ready May 10. Address Supt. of Public Instruction. (Lately noted.)

Ky., Elizabethtown.—Hardin County Board of Education will erect schoolhouses at Stithton, BlackJack and Bethel; J. A. Paine, J. E. Walters and Samuel Fischer, Committee; bids opened Apr. 24.

Ky., Shelbyville.—School Board of Shelby County ordered election for May 20 on \$50,000 bonds to acquire site and erect high school.

Ky., Stithton.—See Ky., Elizabethtown.

La., Broussard.—School Board has plans by G. B. Knapp, Lafayette, La., for school building; 72x75 ft.; brick; slate roof; cost \$14,000; bids opened Apr. 25.

Md., Cambridge.—County contemplates issuing \$35,000 bonds for schools; A. R. Spald, Secy. School Board.

Md., Frederick.—Hood College, Jos. H. Apple, Prest., is reported considering plans for \$50,000 dormitory.

Md., Roland Park.—Gilman Country School for Boys has plans by Edward L. Palmer, Jr., Munsey Bldg., Baltimore, for headmaster's house; colonial brick design; 14 rooms; contractors estimating are: Gladfelter & Chambers, 729 Roland Ave.; E. G. Turner, 15 E. Fayette St.; G. Walter Tovell, Eutaw and McCulloch Sts.; Cowan Building Co., 106 W. Madison St.; all of Baltimore; Roland Park Co., Roland Park; Smith & May, Supervising Archts., 1133 Calvert Bldg., Baltimore; construction to start May 1.

Miss., New Albany.—New Albany Separate School Dist. plans to issue \$10,500 bonds to enlarge Central school. Address Dist. School Trustees.

Mo., Ava.—Ava School Dist. voted \$15,000 bonds to erect high school. Address Distr. School Trustees.

Mo., Bowling Green.—City is having plans prepared by J. M. Dunham Co., 721 Olive St., St. Louis, for high school; 2 stories; cost \$50,000; J. W. Sanderson, Prest. Board of Education.

Mo., Kansas City.—H. J. Rahe will erect 4-story brick building for motor-car training school; cost \$30,000.

N. C., Gastonia.—Building Comm. of School Board selected O. D. Wheeler, Gastonia, Archt. for schools in east and west end of city; 12 rooms and auditorium; cost about \$20,000 each. (Lately noted.)

N. C., Bailey.—Bailey School Dist. will sell \$20,000 bonds for schools; I. N. Glover, Chrmn. Board of Education.

N. C., Cornelius.—Cornelius School Dist. voted \$15,000 bonds to erect school. Address County Board of Education, Charlotte, N. C. (Lately noted.)

N. C., Halifax.—School Board is having plans prepared by Frank Thompson, Raleigh, N. C., for school building; 48x75 ft.; frame; shingle roof; cost \$5000; jacketed stoves, about \$180; bids opened about May 15. Address A. E. Akers, County Supt. of Schools, Roanoke Rapids, N. C. (Lately noted at N. C., Weldon.)

N. C., Raleigh.—Trustees have plans by J. M. Kennedy, Raleigh, for school on E. Hargett St.; 8 classrooms, auditorium, principal's office, etc.; ordinary construction; slate roof; hot-air heat over steam coils; cost \$20,000; Raleigh Township Commrs. have plans by Frank K. Thompson, Raleigh, for Glenwood school; 12 rooms and basement; fireproof; composition roof; hot-air heat over steam coils; cost \$35,000; bids opened Apr.

24. Address B. F. Montague, Raleigh. (Lately noted.)

N. C., Sanford.—School Trustees, W. S. Weatherspoon, Secy., has plans by C. Gadsden Sayre, Anderson, S. C., and will let contract about May 10 to erect lately-noted school; 56x114 ft.; 2 stories and basement; 9 classrooms; auditorium; library, etc.; ordinary construction; Barrett specification roof; gum floors; fan furnace heating and ventilating system; electric lights; cost \$15,000 without mechanical equipment; slate blackboards; total cost \$20,000. (See machinery Wanted—Blackboards.)

Okla., Alva.—City is considering election on \$65,000 bonds to erect high school. Address The Mayor. (Previously noted to have defeated similar issue.)

Okla., Chickasha.—Board of Education is having plans prepared by Layton & Smith, Oklahoma City, for junior high school; unit plan; 1½ stories; 250x220 ft.; auditorium to seat 400; brick or stucco construction; battleship cork line linoleum gymnasium floor; other floors concrete or finish wood laid on concrete; cost \$70,000. (Lately noted.)

Okla., Duncan.—School Board has plans by Bailey & Bailey, Oklahoma City, for \$6000 school.

Okla., Jones.—Hawk & Parr, Security Bldg., Oklahoma City, prepared plans for school; cost \$12,000.

Okla., Halleyville.—School Board ordered election on \$10,000 bonds to remodel Central High School.

Okla., McAlester.—City defeated \$75,000 bond issue. (Lately noted.)

Okla., McAlester.—City voted \$75,000 bonds to purchase site and erect three ward school buildings.

Okla., Nowata.—City is considering election on bonds to erect school.

Okla., Oilton.—City voted \$5,000 bonds to erect school. E. K. Frank, Prest. of School Board.

Okla., San Springs.—City votes May 2 on \$25,000 bonds to purchase site and erect school. Address The Mayor.

S. C., Chester.—School Board will probably call election on special tax to erect high school and make other improvements. Address Dist. School Trustees.

S. C., Edgefield.—Bacon School Dist. No. 34 will issue \$6500 bonds for schools; E. N. Smith, Clerk of Trustees, Johnston, S. C.

S. C., Enoree.—Enoree Consolidated School Dist. No. 17 defeated \$5000 bond issue. (Lately noted.)

Tenn., Calhoun.—School Trustees have plans by Clarence E. Jones, Chattanooga, for \$10,000 community school.

Tenn., Clarksville.—Southwestern Presbyterian University will erect \$25,000 brick addition.

Tenn., Covington.—Tipton County Commrs. ordered election for May 15 on \$20,000 bonds for school improvements.

Tenn., Erwin.—City voted \$12,000 bonds to erect school. Address The Mayor. (Lately noted.)

Tenn., Millington.—Shelby County School Board, Memphis, will erect \$30,000 high school.

Tenn., Nashville.—Buford College for Young Women Incptd. with \$100,000 capital; Mrs. E. G. Buford, Prest., acquired property in West End for \$15,000; will expend \$40,000 to remodel building on property and \$50,000 to erect dormitory and other buildings; Marr & Holman, Archts., Nashville.

Tenn., Dallas.—Union Academy Independent School Dist. voted \$19,000 bonds to erect school building. Address Dist. School Trustees.

Tenn., Farmers Branch.—School Dist. voted \$6000 bonds to erect school. Address Dist. School Trustees.

Tenn., Go-Valle.—C. H. Page & Bro., Austin and Houston, prepared plans for 3-room school to cost \$4000; bids opened May 3; F. G. Reynolds, Prest.

Tenn., Madisonville.—City voted \$5000 bonds to supplement \$20,000 school bonds lately noted voted by county. Address The Mayor.

Tenn., Guadalupe.—Guadalupe School Dist. voted \$10,000 bonds to erect school; H. A. Zeplin, Prest. School Trustees.

Tenn., McAllen.—M. L. Waller Co., 412 Dan Waggoner Bldg., Ft. Worth, prepared plans for brick and reinforced concrete high school to cost about \$60,000.

Tenn., San Antonio.—School Board approved plans by Beverly Spillman, San Antonio, for west side ward school and will receive bids until May 2; colonial style; 2 stories; 12

rooms; 8 sanitary drinking foundations; cost \$40,000. (Lately noted.)

Tenn., Wichita Falls.—School Board, W. J. Bullock, Prest., will call election on \$60,000 bonds to erect school in North Wichita, one on Travis school site, one in southern section of city and addition to high school.

Tenn., Lancaster.—Rawlings School Dist. No. 54, will erect brick school 3 mi. from Lancaster; A. L. Mills, Prest., Board of Trustees; bids opened Apr. 25.

Tenn., Marshall.—School Board has plans by C. G. Lancaster, Marshall, for 2 schools and \$11,000 addition to high school; new structures to be 2 stories; hollow tile, brick and cement stucco; cost \$38,000; bids opened Apr. 25.

Tenn., Texarkana.—Spring Lake Park School Dist. No. 19 will erect brick school. Address Supt. of Public Instruction.

Tenn., Waco.—Trustees of Public Free Schools receive bids until May 4 for labor and material to erect school on Bosque St.; 2 stories and basement; brick; plans and specifications at office Milton W. Scott & Co., Archts., Waco.

Tenn., Wazahachie.—City contemplates issuing \$75,000 high school bonds. Address The Mayor.

Va., Millboro.—School Board, Millboro Dist., receives bids until Apr. 29 to erect 6-room-and-auditorium school; plans and specifications from B. W. Clarkson.

Va., Norton.—Norton School Dist. has plans by M. V. Arnold, Norton, for school. (Previously noted.)

Va., Norfolk.—City opened bids to erect Walter Herron Taylor School; J. H. Pierce, Norfolk, is lowest bidder at \$81,928 for steel construction and \$79,399 for concrete; plans by John Kean Peebles, Norfolk, call for structure 178x122 ft.; rough brick exterior up to sill line of first story; stucco above. (Lately noted.)

Va., Portsmouth.—Washington Magisterial Dist. of Norfolk county receives bids until May 1 at office of Treasurer of Norfolk county, Portsmouth, to erect school building; 16 rooms; cost \$35,000; drawings and specifications at office of Ferguson, Calrow & Wrenn, Archts., Virginia National Bank Bldg., Norfolk; A. F. Foreman, Div. Supt. of Schools. (Lately noted.)

Va., Richmond.—City plans to issue \$582,275 for school buildings and sites; Binford School addition \$50,000; colored Normal School site \$25,000; Chas. E. Bolling, City Engr. (See Water-works.)

W. Va., Excelsior.—Board of Education, Big Creek Dist., McDowell county, will erect 4-room brick school; bids opened April 29; plans and specifications at office County Supt. Cook, Welch, W. Va., and Berwind Bank, Berwind, W. Va.

W. Va., Flatwoods.—Flatwoods Ind. School Dist. votes May 20 on \$7500 bonds to purchase site, erect and equip school; B. S. Berry, Prest.

Tenn., Waco.—City votes in May on bonds to erect school at Robinson; cost \$8000; R. W. Lane, Archt., Waco.

STORES

Ala., Anniston.—F. W. Woolworth Co., New York, leased building and will expend \$10,000 to \$12,000 to remodel.

Ala., Birmingham.—Birmingham Ice & Cold-storage Co., J. Frank Rushton, Gen. Mgr., 220-20 Avenue E, will erect store building.

Ala., Eufaula.—H. Lampley has plans by T. W. Smith & Co., Murrah Bldg., Columbus, Ga., to remodel store; cost \$420.

Ala., Fairhope.—Dr. C. L. Mershon has plans by Geo. B. Rogers, Mobile, for business building; 2 stories; 32x60 ft.; concrete or brick; lower floors, store; upper floor, offices.

Ark., Gillett.—James Vizzier will erect 1-story frame building; 25x50 ft.

Ala., Piedmont.—Dr. F. P. Teague has plans for store building.

Ark., Little Rock.—Scipio Jones has plans by John P. Almond, Little Rock, for building at 704-06 W. 9th St.; 50x58 ft.; 2 stories; brick; lower floor, stores; upper floors, club-rooms.

Fla., Miami.—Dr. W. S. Gramling will erect business building.

Fla., Miami.—J. N. Chamberlain will erect store and apartment-house.

Fla., Oxford.—G. B. Kinard will erect brick store and residence to replace structure burned at loss of \$7000. (Lately noted damaged by fire.)

Fla., Pensacola.—Dr. McGee will erect store; 50x36 ft.; brick; fireproof roof; con-

crete floors; William W. Alfred, Archt., Box 271, Pensacola.

Fla., Sarasota.—Tonneller Bros., St. Petersburg, Fla., will erect business building to replace burned structure.

Fla., St. Petersburg.—Welsh Development Co. will erect store at 459-61 Central Ave.; 40x100 ft.; 2 stories; fireproof; composition roof; cost \$9000; construction begins May 10.

Fla., St. Petersburg.—Dr. F. W. Wilcox will remodel Chautauque Hotel for stores and apartments and erect addition in rear; 1 story; 60x60 ft.; will provide 5 storerooms on first floor.

Ga., Doerun.—W. M. Smith, Cashier Bank of Doerun, is reported to rebuild store noted damaged by fire.

Ky., Harlan.—J. S. Kelly will erect addition to hotel for store, etc. (See Hotels.)

Ky., Lexington.—Phoenix Hotel Co. will erect addition to stores, etc. (See Hotels.)

Ky., Louisville.—E. L. Warren will erect brick building; cost \$4000.

Ky., Shelbyville.—Butler & Hughes will erect brick store building.

La., De Ridder.—Hudson River Lumber Co. has plans by A. J. Armstrong, Majestic Bldg., Shreveport, La., for store and office building; 62x130 ft.; 2 stories; brick and concrete; composition or gravel roof; concrete and wood floors; electric lights (company's installation); cost \$18,000; steam heat, probably \$600; bids opened at completion of plans. Address owner. (Lately noted.)

La., De Ridder.—A. J. Armstrong, Shreveport, La., will erect 2-story store and office building; 62x120 ft.; brick and concrete; composition roof; concrete, wood and tile flooring; steam or vacuum heat; electric lighting; plans by owner; construction begins about May 10. (Lately noted.)

La., Monroe.—Western Star Lodge No. 24 will erect store and Masonic temple. (See Association and Fraternal.)

Md., Baltimore.—Julius Gutman is having plans prepared by John Freund, Hoffman Bldg., Baltimore, for alterations to store at 120-24 Park Ave.

Miss., Belzoni.—H. H. Alexander will erect 3 stores. (See Government and State.)

Miss., Greenville.—F. W. Woolworth & Co., New York, leased building; will remodel and provide tile and plate-glass front; concrete floors with wood covering; metal ceiling; elevator.

Miss., Shubuta.—Geo. S. Weems will erect bank, store and office building; 2 stories; brick; 39x54 ft.; metal roof; cement and wood floors; cost \$5000; also plans other buildings. (Lately noted.)

Mo., Kansas City.—Emery-Bird-Thayer Dry Goods Co. will erect additional story to building at 11th and Walnut Sts.; cost \$30,000.

Mo., Kansas City.—J. S. Pugh will repair burned structure at 1400 Akard St.; cost \$3000.

Mo., St. Louis.—Lucks-Orwig Decorating Co., Theo. Lucks, Prest., will erect building; Italian style; Mauran, Russell & Crowell, Archts., St. Louis.

Mo., St. Louis.—Henri Hell, Prest. Henry Hell Chemical Co., has plans by O. J. Wilhelm, 402 Granite Bldg., St. Louis, for store and apartment building; 125x150 ft.; ordinary and fireproof construction; composition roof; low-pressure vacuum heating; electric lighting; cost \$100,000; bids opened April 27. Address Archt. (Lately noted.)

Okla., Frederick.—J. G. Eberle will erect 2-story brick business building.

Okla., Hobart.—J. M. Mask will rebuild burned structure.

Okla., Hobart.—L. Y. Suttle, Davis, Okla., will erect business building to replace structure damaged by fire at loss of \$8000.

Okla., Hobart.—Bolan Bros. will rebuild burned business building.

Okla., Perry.—Lindeman Grocery Co. will erect brick business building.

Tenn., Calhoun.—D. E. Mackey, Charleston, Tenn., will erect brick business building.

Tenn., Chattanooga.—S. C. Howland is having plans prepared by W. H. Sears, Chattanooga, for store building in Scottsboro; 2 stories.

Tex., Austin.—Mrs. S. J. Hillyer will erect 2-story addition for store and apartments; cost \$4500.

Tex., Houston.—John H. Freeman, trustee, purchased lot at Austin & Walker Aves.; owner will probably erect store and apartment building.

Tex., Post.—J. D. Hume has plans by R. E. Gilmore, Post, for store and rooming house; 40x100 ft.; double store and 18 rooms; ordinary brick construction; common and

face brick and native stone; cost \$10,000; construction begins May 1. Address Mr. Gilmore.

Va., Norfolk.—J. T. Lane will erect building to contain 2 storerooms.

Va., Radford.—R. L. Gardner is reported to erect store building.

Va., Suffolk.—W. B. Lawrence, Prop. Suf-
folk Floral Gardens, will erect store building.

W. Va., Martinsburg.—W. T. Jones & Son are erecting building for store; cost \$7000.

W. Va., Welch.—Sam C. Walker & Co. are reported to erect business building. Address Sam Poilm, Welch, W. Va.

THEATERS

Fla., West Palm Beach.—Arcade Theater, A. A. Tano, Mgr., will remodel building; construction begins in 30 days.

Ga., Macon.—Nisbet, Brown & Dunwody, Macon, prepared plans for \$50,000 moving-picture theater.

Md., Emmitsburg.—W. C. Brenaman, Thurmont, Md., purchased site and will erect moving-picture theater.

Okla., Yale.—Herbert Spencer has plans by A. J. Armstrong, Majestic Bldg., Shreveport, La., for store and office building; 62x130 ft.; 2 stories; brick and concrete; composition or gravel roof; concrete and wood floors; electric lights (company's installation); cost \$18,000; steam heat, probably \$600; bids opened at completion of plans. Address owner. (Lately noted.)

Tenn., Clarksville.—W. M. Daniel, Sr., will erect building for theater for Crescent Amusement Co., W. J. Williams, Secy.; 46x

130 ft.; seating capacity 1000; cost \$30,000; Marr & Holman, Archts., Nashville. (Lately noted.)

WAREHOUSES

Ga., Augusta.—W. E. Trowbridge will erect warehouse.

Ky., Louisville.—J. B. Wathen will rebuild 3-story warehouse at 26th and Broadway; lately noted damaged by storm.

Md., Frederick.—Kehne Bros. have plans by Garrett S. de Grange, Jr., Central Trust Bldg., Frederick, for warehouse, 100x32 ft., and garage, 60x21 ft.; brick walls; iron columns; steel girders and wood floors; slag roof (contract let); floor construction, steel girders with wood joists and flooring; city lighting; hand-power elevator (contract let); all work sublet by day; excavation already started; cost \$9000. Address Archt. (Lately noted.)

S. C., Sumter.—Harby & Co., Inc., is having plans prepared by J. E. Sirrine, Greenville, S. C., for warehouses on Drugie, Washington, Council and Oakland Ave.; mill construction; cost \$75,000 to \$100,000; for cotton and other storage; bids opened in '30 of 60 days. Address Owners. (Lately noted.)

W. Va., Maltonka.—Miller Supply Co., Huntington, W. Va., will erect warehouse.

Va., Richmond.—Richmond Leather Co. will erect brick warehouse; cost \$16,300.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

D. C., Washington.—Ralph E. Walker let contract to William A. Kimmel, 511 Evans Bldg., Washington, for 4-story brick apartment-house; cost \$33,000; W. A. Vaughn, Archt., 507 Barrister Bldg., Washington.

Fla., Tarpon Springs.—Welsh & Cheney let contract to F. W. Parker, Tampa, to erect apartment-house; four 3-room suites; wood construction; shingle roof; double floors; cost \$4500; Oliver M. May, Archt., Tarpon Springs. (Lately noted.)

Ga., Atlanta.—Norman I. Miller let contract to C. B. Myers Construction Co., 813 Empire Bldg., Atlanta, for apartment-house; 35.9x106.6 ft.; brick; stone foundation; tile and tin roof; hardwood floors; steam heat; electric lights; cement sidewalks; following subcontractors have been let: Framing lumber, Frank G. Lake; millwork, Concord Lumber Co.; plumbing, Gresham-Jackson Co.; electric wiring, Dydars Construction Co.; roofing, Hitchcock-Schilling Co., all of Atlanta; brick, Georgia Brick Co., Adairsville, Ga.; stone, Stone Mountain Granite Corp., Stone Mountain, Ga.; Horace B. Hammond, Archt., Candler Bldg., Atlanta; cost \$30,000. Address C. B. Myers, Atlanta. (Lately noted.)

Ga., Atlanta.—W. B. Phelps let contract to C. E. Miller, Atlanta, to erect brick-veneer apartment-house; cost \$7500.

Ga., Savannah.—Mrs. A. L. Gerard let contract to I. L. Echols, 1 W. Duffy St., Savannah, to erect apartment-house; 35x35 ft.; 2 stories; fireproof; metal roof; cost \$3000; also let contract to S. D. Mizell for plumbing and N. Frierson, Savannah, for electric work; Levy & Clark, Archts., Savannah. (Lately noted.)

Md., Baltimore.—Carlton Apartment Co. let contract to Chas. L. Stockhausen Co., Inc., Marine National Bank Bldg., Baltimore, to erect apartment-house on N. Charles St., near University Parkway; 4 stories; 119x68 ft.; Parker, Thomas & Rice, Archts., Union Trust Bldg., Baltimore. (Lately noted.)

Okla., Hobart.—J. M. Mask will rebuild structure.

Okla., Hobart.—L. Y. Suttle, Davis, Okla., will erect business building to replace structure damaged by fire at loss of \$8000.

Okla., Hobart.—Bolan Bros. will rebuild burned business building.

Okla., Perry.—Lindeman Grocery Co. will erect brick business building.

Tenn., Calhoun.—D. E. Mackey, Charleston, Tenn., will erect brick business building.

Tenn., Chattanooga.—S. C. Howland is having plans prepared by W. H. Sears, Chattanooga, for store building in Scottsboro; 2 stories.

Tex., Austin.—Mrs. S. J. Hillyer will erect 2-story addition for store and apartments; cost \$4500.

Tex., Houston.—John H. Freeman, trustee, purchased lot at Austin & Walker Aves.; owner will probably erect store and apartment building.

Tex., Post.—J. D. Hume has plans by R. E. Gilmore, Post, for store and rooming house; 40x100 ft.; double store and 18 rooms; ordinary brick construction; common and

proof construction; slag roof; wood on concrete floor; steam or hot-water heat; gas and electric lights; cost about \$40,000; Oliver B. Wright, Archt., Munsey Bldg., Baltimore. (Previously noted.)

Okla., Pawnee.—Masonic Lodge let contract to M. A. Swatek & Co., Oklahoma City, to erect Masonic Hall; 50x75 ft.; ordinary construction; tin roof; electric lights; cost \$6000; Fred Uhl, Archt. (Noted in Feb.)

BANK AND OFFICE

Ga., Augusta.—Garrett & Calhoun let contract to erect building for offices, etc. (See Warehouses.)

Ga., Augusta.—John R. Schneider let contract to erect store and office building. (See Contracts Awarded—Stores.)

Ga., Augusta.—Dr. William H. Harrison, Jr., let contract to Rowland & Branch, Augusta, to erect 2 office buildings; one, 50x50 ft., 2 stories; other, 50x150 ft., 2 stories; fireproof; tin roof; steam radiation; electric wiring; cost \$12,000; Goodrich, Hoefer & Clark, Archts., Augusta; also let contract E. J. Erbelding Co., Augusta, for plumbing. (Lately noted under Stores.)

Ga., Tifton.—Bank of Tifton let contract to Southern Ferro-Concrete Co., Atlanta, to erect bank building; exterior of Amicalola marble; let contract for millwork to Williamson-Tift Lumber Co., Atlanta; 1 story; 55x55 ft.; marble and concrete interior finish; concrete floors; vaults, etc.; cost \$50,000; Edwards & Sayward, Archts., Atlanta. (Lately noted.)

Ky., Grayson.—Citizens' Bank of Grayson let contract to Pelphey & Davis, Ashland, Ky., to erect bank, store and office building; 50x76 ft.; composition roof; brick; stone and wood floors; electric lights; cost \$12,500; also let contract for steam heating to Rockway Plumbing & Supply Co., Huntington, W. Va.; W. B. Smith, Archt., Huntington. (Lately noted.)

Ky., Hickman.—Hickman Bank & Trust Co. let contract to Southern Seating & Cabinet Co., Jackson, Tenn., to erect bank building; cost \$18,000 to \$20,000.

Mo., St. Louis.—Union Electric Light & Power Co. let contract to Westlake Construction Co., St. Louis, to erect addition to office building; cost \$300,000. (Previously noted.)

N. C., Mayodan.—Bank organized with \$10,000 capital; let contract to John R. Smith, Mayodan, to remodel Lautin Bldg., install plate-glass front, etc.

Tex., Brenham.—Farmers' National Bank let contract to Alex. Griffin to rebuild structure for Mrs. Robert Koye, Dallas; install vault, iron and glass front, etc.; W. N. Gunn, Archt.

Tex., Paris.—R. M. Clements let contract to erect store and office building. (See Stores.)

Tex., San Antonio.—R. K. Russell let contract to Wright & Sander, San Antonio, to erect additional story to building to be occupied by Great Southern Life Insurance Co.; reinforced concrete; concrete and tile floors; cost \$15,000; E. Boelhoeve & J. Flood Walker, Archts., San Antonio; J. I. Haile, Archt.

State Bank Bldg., may be addressed. (Lately noted under Stores.)

Va., Petersburg.—H. L. Smith & Co. let contract to erect store and office building. (See Stores.)

CHURCHES

Mo., St. Louis.—Haase Realty Co. let contract to alter chapel, etc. (See Dwellings.)

Okla., Oklahoma City.—Maywood Christian congregation let contract to J. M. Smith, Oklahoma City, to erect building; 2 stories and basement; 48x90 ft.; mottled-face brick; asphalt shingle roof; concrete and pine flooring; metal ceiling; electric fixtures; Rev. G. W. McQuiddy, pastor; Hawk & Parr, Archts., Security Bldg., Oklahoma City. (Noted in March.)

S. C., Spartanburg.—Presbyterian Church let contract to Booker T. Smith, 201 Commerce St., Spartanburg, to erect building; 47x72 ft.; metal roof; wood floors; cost \$36,377; S. P. Tinsley, Archt. Address Contr.

Tenn., Franklin.—Methodist Episcopal Church South let contract to Neal Vaughn & Co., Nashville, to erect Sunday-school addition; brick; slate, tar and gravel roof; low-pressure steam heat; cost \$15,000; C. K. Colley, Archt., Nashville. (Noted in Feb.)

Tex., Alpine.—First Baptist Church, Rev. James T. Tritt, pastor, let contract to L. B. Westerman, Fort Stockton, Tex., to erect building; 70x70 ft.; ordinary construction; red tile roof; hot-air heat; electric lights; cost \$13,000 to \$15,000; J. E. Greene, Archt., 508 American Trust Bldg., Birmingham, Ala. (Previously noted.)

Tex., Galveston.—West Point Baptist Church (Colored) let contract to W. S. Murdoch, Archt., Galveston, to erect building; brick veneer; cost \$10,000.

Tex., Marshall.—First Christian Church let contract to S. R. Burnett Lumber Co., Marshall, to erect addition, increasing size of building to 98x62 ft.; frame; wood shingle roof; yellow-pine floors; cost \$7500; also let contract for painting at \$1000 to A. C. Jennings, Marshall; John Carpenter, Archt., Marshall. Address general contractor. (Lately noted.)

CITY AND COUNTY

Ark., Morrilton.—Library.—City let contract to Ira B. Davis, Little Rock, to erect Carnegie library; 32x64 ft.; brick; tile roof; tile, concrete and shingle roof; city lighting; probably steam heat; cost \$250; Thos. Harding, Archt., Little Rock; construction begins in about 2 weeks. (Lately noted.)

Fla., Tampa.—Barn.—Hillsboro let contract at \$271 to erect stock barn on county farm; Bonfoey & Elliott, Archts., Tampa. (Lately noted.)

N. C., Hendersonville.—City Hall.—City let contract at \$147.25 to Gilreath & Gurley, Hendersonville, to remodel city hall; Earl G. Stillwell, Archt., Hendersonville. (Previously noted.)

Tex., Kaufman.—Almshouse.—Commissioners' Court of Kaufman County let contract to erect paupers' home on County Farm near city.

COURTHOUSES

Va., Grundy.—Buchanan county let contract to S. R. Hurley, Grundy, to erect courthouse; fireproof; asbestos roof; reinforced concrete floors; hot-water heat; conduit electric lighting; cost \$34,400; Milburn Heister & Co., Archts., Union Savings Bank Bldg., Washington, D. C. (Lately noted.)

DWELLINGS

Ala., Troy.—C. A. Simpson let contract to P. F. Hanley, Troy, to erect residence lately noted; 2 stories; about 10 rooms; red brick veneer for first story, stucco for second; composition roof; pine and hardwood floors, tile for porches; city lighting; cost \$8500; Frank Lockwood, Archt., Montgomery. Address Contr. (See Machinery Wanted—Roofing & Plaster.)

Ark., Warren.—Glasgow Bros. let contract to erect two 6-room cottages.

D. C., Washington.—Frank Blaine let contract to Johnson & Moxley to erect 2 dwellings on 12th St. N. E.; 18x40 ft.; brick; tin roof; oak floors; Hutchinson vapor heat; electric lighting; cement sidewalks; cost \$5000; A. E. Landvoigt, Archt., Woodward Bldg., Washington. Address Contr. (Lately noted.)

D. C., Washington.—Andrew B. Reavis, 1700 15th St. N. W., Washington, let contract to Horace G. Smithy, 721 13th St. N. W., Washington, for dwelling at 1309 Delafield Pl. N. W.; 8 rooms; frame; pebble-dashed first story, shingled second; slate roof; quarter-sawed oak flooring on first floor, edge-grain Alabama pine on second; porch floors of

edge-grain Georgia pine; cost \$400; hot-water heat, about \$400; Geo. T. Santymers, Archt., 921½ New York Ave. N. W., Washington. (Lately noted.)

Fla., Jacksonville.—Dr. F. S. Robinson let contract to Henry Taylor, Jacksonville, to erect 2-story frame residence; 36x58 ft.; garage 14x20 ft.; cost \$6500; asbestos tile roof.

Fla., Palma Sola.—Geo. J. Marott, Indianapolis, Ind., has plans by and let contract to Hullinger & Son, Bradenton, Fla., to erect residence; 61x68 ft.; frame and shingle; composition roof; open fireplaces; electric lights; J. W. Barney, Bradenton, Fla., may be addressed. (L. J. Kirkpatrick, Kokomo, Ind., lately noted to erect this dwelling.)

Fla., Sarasota.—Edison Keith let contract to Geo. L. Lysat and J. C. Emerson, Sarasota, to erect \$30,000 dwelling; E. T. Roux & Son, Plant City, Fla., have contract to furnish material.

Fla., Atlanta.—Mrs. L. M. Nichols let contract to H. M. Nichols & Son, Atlanta, to erect 2-story brick-veneer dwelling; cost \$1500. \$4500.

Fla., Atlanta.—D. E. Plaster let contract to D. D. Shermer, Atlanta, to erect bungalow; 1-story; frame; stone foundation; cement porch; tile bath; furnace heat; cost \$3250; Lelia Ross Wilburn, Archt., 305 Peters Bldg., Atlanta.

Fla., Atlanta.—Brutus Clay let contract to T. T. Flagler, Healy Bldg., Atlanta, to erect residence; colonial style; brick veneer; slate roof; hot-water heat; cost \$15,000; F. Thornton Mayre, Archt., Candler Bldg., Atlanta.

Fla., Augusta.—D. B. Dowling let contract to A. J. Martin Co., Augusta, to erect dwelling on Heard Ave.; 2 stories; frame; tin roof; hardwood floors; steam heat; electric lights; cost \$6000.

Fla., Augusta.—Mrs. B. T. Lowe, 415 11th St., let contract to T. O. Brown, Augusta, to erect residence; 8 rooms; stucco on hollow tile; slate roof; hardwood floors first story; electric lighting from local plant; cost \$7000; hot-water heat, \$600; G. Lloyd Preacher, architect, Augusta.

Fla., Waycross.—Ware County Light & Power Co. let contract to erect 14 dwellings for employees.

Ky., Lexington.—W. R. Embry, Mantelle Park, let contract to S. F. McCormick Lumber Co., Lexington, to erect residence; 30x35 ft.; brick; shingle roof; hot-air heat, \$300; electric lights; cost \$4500; J. V. Moore, Archt., Lexington. (Lately noted.)

Ky., Lexington.—J. A. Eastin let contract to J. T. Jackson Lumber Co., Lexington, to erect residence (lately noted) at Harris Pike and Laclede Ave.; 9 rooms; bungalow style; shingle roof; hardwood floors; electric lights; Martin Gertz, Archt., Lexington. (See Machinery Wanted—Lighting Equipment, Heating Plant.)

Md., Baltimore.—Fred Quellmalz let contract to E. G. Turner, 15 E. Fayette St., Baltimore, to erect residence in Guliford; 2½ stories; brick; 29x38 ft.; Edw. L. Palmer, Jr., Archt., Munsey Bldg., Baltimore. (Previously noted.)

Md., Baltimore.—Herman Lohmeyer let contract to G. Walter Tovell, Eutaw and McCulloch Sts., Baltimore, to erect residence at Guliford; 44x43 ft.; 2½ stories; brick; cost \$12,000; Mottu & White, Archts., 322 N. Charles St., Baltimore. (Lately noted.)

Md., Mt. Washington.—William J. McCawley let contract to Turner Bros., Union Trust Bldg., Baltimore, for Dutch colonial residence at Mount Washington Villas; brick and stone; 2 stories.

Miss., Aberdeen.—Abe Rubel, Jr., let contract to Addison Brannin, Aberdeen, to erect residence; 2 stories; 8 rooms; brick veneer; green tile roof; hardwood floors; cost \$3000; hot-water heat, \$600; Hunker & Cairnes, Archts., Memphis, Tenn. (Lately noted.)

Miss., Dlo.—Finkbine Lumber Co. let contract to erect 36 2, 3, 4, 5 and 6-room dwellings for employees; wood construction, roof and floors; cost \$15,000; Overstreet & Spencer, Archts., Jackson, Miss. (Lately noted.)

Mo., St. Louis.—Haase Realty Co. let contract to C. Haase, St. Louis, to alter chapel and dwelling at 2029 S. Jefferson St.; cost \$7500.

Mo., St. Louis.—P. A. Bernhard, 2618 Oregon St., let contract to A. Doerflinger to erect 2-story dwelling; cost \$3000.

Mo., St. Louis.—H. Schreif let contract to G. Schakey, St. Louis, to erect 3-story dwelling; cost \$4000.

Mo., St. Louis.—R. F. Gardner let contract to Murch Bros., St. Louis, to alter dwelling at 4576 W. Pine St.; cost \$11,000.

N. C., Centerville.—Mrs. H. L. Beckerdite

let contract to M. A. Haney, Winston-Salem, N. C., to erect residence.

N. C., Charlotte.—Conrad Realty Co. let contract to S. L. Vaughan, Charlotte, to erect 2 residences; cost \$3690.

N. C., Charlotte.—Chas. H. Garmon let contract to S. L. Vaughan, Charlotte, to erect 2 residences.

N. C., Farmville.—W. J. Turnage let contract to erect residence.

N. C., Mayodan.—J. V. Highfill has contract to erect residence.

N. C., Mayodan.—Miss Emma Carrier let contract to W. W. Gass, Mayodan, to erect residence; 8 rooms.

N. C., Winston-Salem.—A. C. Hill let contract to C. E. Hahn, 824 N. Cherry St., Winston-Salem, to erect residence; 48x64 ft.; frame; shingle roof; hardwood floors; electric lighting; cost \$4000; vapor heat \$700; Humphrey, Faw & Knapp, Archts., Winston-Salem. (Lately noted.)

Okla., Chickasha.—D. M. Cavaness let contract to Pat Larson, Chickasha, to erect 6-room bungalow; cost \$3500; completion by July 15.

Okla., Chickasha.—John E. White let contract to Puckett & Baker, Chickasha, to erect 5-room bungalow; cost \$3000; completion by July 1.

Okla., Norman.—Maurice Jayne, Oklahoma City, prepared plans and let contract for residence.

Okla., Oklahoma City.—Maurice Jayne prepared plans and let contract to erect 10 residences; cost \$3000 to \$5000 each.

S. C., Columbia.—W. J. McGhee has plans by Arthur Hamby, Columbia, for residence; brick-veneer; 2 stories; cement tile roof; oak floors; A. M. Soc., Contr., Columbia.

Tex., Austin.—C. Truit let contract to W. Dietz, Austin, to erect residence; 6 rooms; frame; 40x50 ft.; pine flooring; shingle roof; electric fixtures; cost \$4000; Kuehne, Chasey & Giesecke, Archts., Austin.

Tex., Fort Worth.—Geo. Clayton let contract to Payne Bros., Fort Worth, to repair residence; cost \$3000.

Tex., Marshall.—Sam Kranson let contract to erect \$3000 frame residence; C. G. Lancaster, Archt., Marshall.

Tex., San Angelo.—R. A. Hall, V.-P. San Angelo National Bank, let contract to H. H. Myers & Co., San Angelo, to erect 2-story residence; 11 rooms; brick; tile roof; cost \$15,956; completion by Sept. 1.

Tex., San Angelo.—O. L. Greer let contract to G. S. Mills to erect 6-room frame residence; straw-brick foundation and porch pillars; cost \$3500.

Tex., San Angelo.—Joseph Devlin let contract to D. C. Allbright, San Angelo, to erect residence; 1½ stories; frame; full concrete basement; hot-air heat; H. M. Marvin, architect, San Angelo.

Va., Milford.—T. W. Wood & Sons let contract to E. G. Heflin, Fredericksburg, Va., to erect 3 dwellings; 20x26 ft.; cost \$4500. Address Archt. (Lately noted.)

Va., Norfolk.—Mrs. K. Ruffin let contract to W. T. Gregory, Norfolk, to erect residence; 2 stories; hollow tile; cost \$10,000.

Va., Richmond.—R. F. Patterson let contract to James Fox & Sons, 25th and Franklin Sts., Richmond, for residence; 45x80 ft.; brick covered with stucco; tile roof; joist floor construction; hot-water heat; electric lights; passenger elevator; cost \$25,000; H. Carl Messerschmidt, Archt., 1124 Mutual Bldg., Richmond. Address the Archt. (Lately noted.)

W. Va., Sistersville.—C. H. Miller let contract to Dayton & Francis, New Martinsville, W. Va., to erect residence.

GOVERNMENT AND STATE

Md., Indian Head—Storehouse.—Bureau of Yards and Docks, Navy Dept., Washington, D. C., let contract at \$13,390 to Hidden & Euler, Law Bldg., Baltimore, to erect storehouse at Naval Proving Grounds; brick and concrete; 1 story; reinforced concrete frames; brick curtain walls; concrete floor, footings and piers; reinforced concrete platform; steel window sash; 52x158.3 ft.; F. R. Harris, Chief of Bureau. (Lately noted.)

N. C., Wilmington—Custom-house, etc.—G. A. Kees Domestic Engr. Co., St. Paul, Minn., has contract at \$37,746 for mechanical equipment, except elevator and lighting fixtures, for custom-house, appraisers' store and courthouse, for which Northeastern Constr. Co.,

New York, has general contract at \$368,400. (Lately noted.)

HOSPITALS, SANITARIUMS, ETC.

Tex., Marlin.—Dr. W. H. Allen let contract to Caddo Construction Co., Muskogee, Okla., to erect hospital; 53x80 ft.; concrete and steel; gravel roof; concrete and tile floors; elevator; cost \$30,000; Milton Scott & Co., Archts., Waco, Tex. Address Contr. at Marlin. (Lately noted.)

HOTELS

Fla., Miami.—Company is being organized with W. N. Urmey, Prest.; F. O. Dunham, Secy., and Joe G. Urmey, Treas.; let contract to Wolfe & Ewing Construction Co., Miami, to erect hotel; 6 stories; steel and reinforced concrete; lobby, 85x58 ft.; dining-room to seat 240; cost about \$125,000; H. H. Mundt, Archt., Miami; construction begins May 1. (Previously noted.)

Ky., Bowling Green.—G. W. Williams and J. W. Montgomery let contract to John Donnelly, Bowling Green, to erect hotel; 48x48 ft.; wing, 24x100 ft.; brick and concrete; asbestos roof; concrete and tile floors; cost \$25,000; low-pressure steam heat, \$300; electric lighting, \$800; C. M. Fleenor, Archt., Bowling Green.

Tenn., Jackson.—F. L. McKnight, Jackson, general contr. to erect Southern Hotel, let following sub-contracts: Plumbing, Cockrill Bros.; heating, Curtiss Plumbing & Heating Co.; wiring, W. S. Knight, all of Jackson; lumber and millwork, York Lumber & Mfg. Co., Memphis; plans by R. A. Heavener, Jackson, call for structure 44.10x142 ft.; wing, 43x34 ft.; brick and wood; composition roof; wood floors; steam heat; electric lights; cost \$43,500, including heating and lighting. (Lately noted.)

Tex., Paris.—Gibraltar Hotel let contract to Buchanan & Gilder, Southwestern Life Bldg., Dallas, to erect 2-story addition to hotel; cost \$75,000.

Tex., Seguin.—Coleman & Jenkins, Seguin, general contractors to erect hotel for City Hotel Assn., let following sub-contracts: Heating and plumbing, Emil Rank; electrical work, J. Smiley, both of Seguin; plumbing fixtures, Ahrens & Ott, San Antonio; structure to be 38x90 ft.; reinforced concrete; tile floors; cost \$45,000. (Lately noted.)

MISCELLANEOUS

Tex., Edna—Auditorium.—Edna Civic Club let contract to Hobson & Taylor, Edna, to erect auditorium to replace structure lately noted damaged by fire; 1 story; bungalow style; 40x80 ft.; stage and dressing-rooms; cost \$3550.

Tex., Wichita Falls—Dairy Barn.—J. A. Kemp has plans by and let contract to Naylor, Hammack & Noey, Wichita Falls, to erect dairy barn; 36x69 ft. with "T" 36x82 ft.; concrete foundation; hollow tile walls; composition roof; cement floor; cost \$5000. (Lately noted.)

RAILWAY STATIONS, SHEDS, ETC.

Fla., Ocala—Seaboard Air Line Ry. and Atlantic Coast Line Ry. let contract to A. M. Walkup Co., Inc., Richmond, Va., to erect union passenger station; 30x165 ft.; ordinary construction; asbestos shingle and built-up composition roof; electric lights; cost \$18,000; plans by W. D. Fauchette, Ch. Engr., Norfolk, Va. Address contractor.

Okla., Commerce—Missouri, Oklahoma & Gulf Ry. Co. of Texas, William Keneck, Prest., Kansas City, Mo., and Muskogee, Okla., let contract to erect depot.

S. C., Florence—Seaboard Air Line Ry. Co., W. D. Fauchette, Chief Engr., Norfolk, Va., let contract to Christian Constr. Co., Durham, N. C., to erect passenger station, 30x80 ft.; oriental brick-veneer; concrete foundation; terra-cotta tile roof; floor construction of tar-concrete on fill with edge grain-wearing surface; cost \$8500. (Lately noted.)

SCHOOLS

Fla., Daytona Beach.—C. T. Dawkins, Jacksonville, Gen. Contr. to erect school building, let following sub-contracts: Concrete, Florida-Schub Concrete Construction Co.; plumbing and heating, Chas. G. Belote; sash and doors, J. C. Halsena Mfg. Co.; all of Jacksonville; ornamental iron, Price-Evans Foundry Co., Chattanooga; roofing, Jacksonville office of P. Carey Co., Cincinnati; plans by Mark & Sheftall, Jacksonville, call for structure 141.4x71.8 ft.; 1 story and basement; 16 rooms; reinforced concrete; cost about \$40,000. (Previously noted.)

Fla., Seabreeze.—C. T. Dawkins, Jacksonville, Gen. Contr. to erect Daytona Beach

Seabreeze school building, let sub-contracts. (See Fla., Daytona Beach.)

Ga., Lagrange.—Elm City Cotton Mills, Unity Spinning Mills and Hillside Cotton Mills let contract to T. C. Thompson & Bros., Birmingham, Ala., and Charlotte, N. C., to erect school; 2 stories and basement; 8 classrooms; auditorium to seat 600; brick; vapor vacuum heating; electric and water service; domestic science and manual training equipment; Dallis-Roberts Co., Archt., Atlanta.

La., Mansfield.—School Board let contract at \$46,295 to Corbin Bros., Mansfield, to erect school; 2 stories; 80x140 ft.; ordinary construction; built-up asbestos, felt and gravel roof; vacuum steam heat; Edw. F. Neild, Prest., Commercial Natl. Bank Bldg., Shreveport, La.

Miss., Woodville.—Building Commission let contract to Wilson & Pitt for brick and carpenter work on \$10,000 agricultural high school; also let contract for plumbing and heating; plans, by A. D. Paine, call for structure 3 stories; 50x100 ft.; brick; asphalt shingle roof; steam heat. (Previously noted.)

Tex., Denton.—College of Industrial Arts, Dr. Bradley, Prest., let contract to Watson Co., Dallas, to erect dining hall and dormitory building; about 155x160 ft.; 2 stories and basement; fireproof; Barrett tar and gravel roof; yellow pine, cement and tile flooring; cost \$100,000; steam heat, \$6500; wiring, \$3000; fixtures extra; hand-power elevator, \$3000; Ernest E. McAnelly, Archt., Dallas. (Other contracts lately noted.)

Tex., Denton.—College of Industrial Arts, Dr. F. M. Bradley, Prest., let contract to Watson Company, Dallas, to erect dining hall and dormitory; Barrett tar and gravel roof; fireproof construction; yellow pine, cement and tile flooring; cost \$100,000; steam heat \$6000; electric lights \$3000; hand-power elevator \$3000; Ernest E. McAnelly, Archt., Dallas. Address President Bradley. (Other contracts lately noted.)

Tex., Eustace.—School Board let contract to W. O. England, Athens, Tex., to erect 2-story addition, 50x50 ft., and remodel present school; brick; composition roof; wood floors; 1-room heating system; cost \$532; Walter G. Shadley, Archt., Athens. (Lately noted.)

Va., Evington.—Otter River School Dist. let contract to L. E. Pribble, Evington, to erect addition to graded school and 1-room colored school at Mt. Airy; Heard & Cardwell, Archts., 507-08 Peoples' National Bank Bldg., Lynchburg, Va. (Noted in Mch.)

Va., Danville.—School Board let contract to W. A. Gravely, Patton St., Danville, to erect school; 87x103 ft.; brick; tar and slag roof; marbleoid and maple flooring; also let contract at \$589 to Farley Plumbing & Heating Co., Danville, for heating plant, and at \$490 and \$206.70, respectively, for wiring and fixtures to Brown Electric & Supply Co., Danville; construction begins May 1; Pritchett & Henderson, Archts., Dudley Bldg., Danville. (Lately noted.)

Va., East Radford.—State Normal School Board let contract to Longest & Tessier Co., Greensboro, N. C., to erect dormitory; 102x50 ft.; brick and reinforced concrete; brownstone trimming; slate roof; reinforced concrete floors; cost \$40,000; Chas. M. Robinson, Inc., Archt., Richmond. Address Contr. (Lately noted.)

STORES

D. C., Washington.—Boyle-Robertson Construction Co., 1516 H St. N. W., Washington, has contract to erect building at 7th and L Sts. N. W. to be occupied by R. E. Burks; 4 stories; 40x80 ft.; tapestry brick exterior; electric heavy duty elevator; cost \$20,000; completion by Aug. 1; F. B. Pyle, Archt., 606-608 Evans Bldg., Washington.

D. C., Washington.—Stone & Fairfax let contract to S. J. Prescott Co., 814 13th St. N. W., Washington, to erect 2-story brick store and dwellings at 1409 14th St. N. W.; cost \$6000; A. P. Clarke, Jr., Archt., 816 14th St. N. W., Washington.

Ga., Augusta.—Bowen Bros. let contract to Rowland & Branch, Augusta, to erect \$12,000 store building; G. Lloyd Preacher, Archt., Augusta. (Lately noted.)

Ga., Atlanta.—Fulton Bag & Cotton Mills let contract to R. M. Walker, Atlanta, to erect stores; cost \$10,000.

Ga., Augusta.—John R. Schneider let contract to McKenzie & Thompson, Augusta, to erect building on Broad street; 2 stories; terra-cotta front; plate glass and marble show windows; tile entrance; lower floor, store; upper floors, offices; G. Lloyd Preacher, Archt., Augusta. (McKenzie & Thompson lately noted to have contract to erect building on Broad St.)

Contracts.—
ton Mills,
side Cotton
hompson &
Charlotte, N.
basement;
000; brick;
and water
annual train-
Co., Archt.,
Archt., Columbus.

Contracts.—
ton, Columbus.—C. E. Westbrook let contract to M. C. Barlow, Columbus, to erect building to replace burned Curtis Building; 3 stories; brick; metal roof; cost \$15,000; T. W. Smith & Co., Columbus.

Contracts.—
ton, Columbus.—C. E. Westbrook let contract to M. C. Barlow, Columbus, to erect store building; 50x135 ft.; 3 stories; press brick and stone front; 2 show windows; tile floors; metal ceilings; electric elevators; furnace heat; T. W. Smith & Co., Archt., Murray Bldg., Columbus.

Contracts.—
ton, Lexington.—Lee Bromley, S. Broad-
way, let contract to J. T. Jackson Lumber
Co., Lexington, to erect store and flat build-
ing; 35x53 ft.; brick and frame; tin roof;
wood floors; gas heating; electric wiring;
cost \$5000; E. Stamler, Archt., Fayette Bank
Bldg., Lexington; construction begins May
1. Address contractors. (Lately noted.)

Contracts.—
ton, Kansas City.—Emma J. Meyer let con-
tract to Fogle Constr. Co., Kansas City, to
erect building on Grand Ave., to be occupied by
Waggener Paint & Glass Co.; faced with
model red brick; light gray terra-cotta trim-
ming; 6 stories; provision for 2 extra stories;
cost \$125,000; J. S. Sunderland, Archt.

Contracts.—
ton, Winston-Salem.—E. K. Polite let
contract to T. A. Butler to erect 1-story
brick store building; 44x87 ft.; concrete and
brick; metal roof; steel girders; wood
beams; electric and gas lights; Humphreys
& Faw, Archt., Winston-Salem. Address
contractor.

Contracts.—
ton, Collinsville.—Frank Sutton let con-
tract to P. J. Duffy to erect brick business
building.

Contracts.—
ton, Collinsville.—Thomas Hyland let
contract to P. J. Duffy to erect brick busi-
ness building.

Contracts.—
ton, Grandfield.—J. T. Broyles let con-
tract to erect brick business building.

Contracts.—
ton, Grandfield.—J. T. Broyles let con-
tract to erect business building; brick; 50x
9 ft.

Contracts.—
ton, Chattanooga.—Robinson & Dowler
let contract to Forman & Evans, Chatta-
nooga, to erect 2-story brick business build-
ing; cost \$7000.

Contracts.—
ton, Chattanooga.—Southern Auto Sup-
ply Co., 730 Broad St., let contract to Stew-
art & Johnson, Chattanooga, to erect build-
ing on Broad St.; 50x100 ft.; 2 stories and
basement; reinforced concrete and brick;
concrete and hollow-tile roof, waterproofed
probably with tar and gravel top; concrete
and terrazzo floor; probably low-pressure
steam heat; city lighting; Berger specifica-
tion vault lights or equivalent; 3000-lb. ele-
vator; cost \$20,000; W. H. Sears, Archt.,
James Bldg., Chattanooga. Address owner.
(Lately noted.)

Contracts.—
ton, Chattanooga.—Palmer-Spivey Construc-
tion Co., 517 Leonard Bldg., Augusta, to erect 1-story
brick warehouse to contain offices, sample-
room, etc.; flexible cement roof; cost \$3000.
Address contractor.

Contracts.—
ton, Greenville.—Neal-Dodds Lumber Co.
let contract to J. T. Fargason Co., Green-
ville, to erect warehouse; brick; 50x88 ft.

Contracts.—
ton, Winston-Salem.—Spach Bros.' Wagon
Works let contract to M. A. Haney, Winston-
Salem, to erect warehouse.

Contracts.—
ton, Tulsa.—Crosbie & Mitchell, Central
National Bank Bldg. let contract to J. D.
Wilson, Clinton Bldg., Tulsa, to erect 2-story
warehouse; cost \$27,000.

Contracts.—
ton, Nashville.—J. McCall let contract
to J. P. Read, 161 4th Ave. North, Nashville,
to repair building at 1516 Hawkins St., dam-
aged by fire. (Lately noted.)

Contracts.—
ton, Fort Worth.—M. Cohn let contract
to Payne Bros., Fort Worth, to erect 1-story
brick store; cost \$6500.

Contracts.—
ton, Paris.—R. M. Clements let contract

Contracts.—
ton, J. T. Finn, Owens & Co., Paris, to erect
store and office building; 54x108 ft.; concrete
frame and floor slabs; construction to per-
mit erection of additional stories; Barrett
roofing; cement and wood floors; cost \$30,
000; C. H. Page & Bro. and A. E. Griffith,
Archts., Austin. (Lately noted.)

Contracts.—
ton, Sour Lake.—Gus Mobray let contract
to J. B. Heartfield & Son to erect 1-story fire-
proof building; cost \$5500.

Contracts.—
ton, Winona.—R. T. McClung let contract
to erect two 2-story brick business buildings.

Contracts.—
ton, Petersburg.—H. L. Smith & Co. let
contract to R. K. Stewart & Son for 6-story
brick business building; first two floors for
office and showrooms, remainder for storage;
H. L. Smith, Jr., Archt.

Contracts.—
ton, Lexington.—Lee Bromley, S. Broad-
way, let contract to J. T. Jackson Lumber
Co., Lexington, to erect store and flat build-
ing; 35x53 ft.; brick and frame; tin roof;
wood floors; gas heating; electric wiring;
cost \$5000; E. Stamler, Archt., Fayette Bank
Bldg., Lexington; construction begins May
1. Address contractors. (Lately noted.)

Contracts.—
ton, Kansas City.—Emma J. Meyer let con-
tract to Fogle Constr. Co., Kansas City, to
erect building on Grand Ave., to be occupied by
Waggener Paint & Glass Co.; faced with
model red brick; light gray terra-cotta trim-
ming; 6 stories; provision for 2 extra stories;
cost \$125,000; J. S. Sunderland, Archt.

Contracts.—
ton, Winston-Salem.—E. K. Polite let
contract to T. A. Butler to erect 1-story
brick store building; 44x87 ft.; concrete and
brick; metal roof; steel girders; wood
beams; electric and gas lights; Humphreys
& Faw, Archt., Winston-Salem. Address
contractor.

Contracts.—
ton, Collinsville.—Frank Sutton let con-
tract to P. J. Duffy to erect brick business
building.

Contracts.—
ton, Collinsville.—Thomas Hyland let
contract to P. J. Duffy to erect brick busi-
ness building.

Contracts.—
ton, Grandfield.—J. T. Broyles let con-
tract to erect brick business building.

Contracts.—
ton, Grandfield.—J. T. Broyles let con-
tract to erect business building; brick; 50x
9 ft.

Contracts.—
ton, Chattanooga.—Robinson & Dowler
let contract to Forman & Evans, Chatta-
nooga, to erect 2-story brick business build-
ing; cost \$7000.

Contracts.—
ton, Chattanooga.—Southern Auto Sup-
ply Co., 730 Broad St., let contract to Stew-
art & Johnson, Chattanooga, to erect build-
ing on Broad St.; 50x100 ft.; 2 stories and
basement; reinforced concrete and brick;
concrete and hollow-tile roof, waterproofed
probably with tar and gravel top; concrete
and terrazzo floor; probably low-pressure
steam heat; city lighting; Berger specifica-
tion vault lights or equivalent; 3000-lb. ele-
vator; cost \$20,000; W. H. Sears, Archt.,
James Bldg., Chattanooga. Address owner.
(Lately noted.)

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ton, Paris.—R. M. Clements let contract

Contracts.—
ton; 25 all steel 36-in. gauge 2-yd. end dump
cars; 1 to 1½-yd. clam-shell bucket.

Curbing (Granite).—
ton, Columbia, Room 509 Dist. Bldg., Washington, D. C.—Bids until May 1 to furnish from July 1, 1916, to June 30, 1917, granite curbing; specifications and proposal forms obtainable from Purchasing Officer, Room 320, Dist. Bldg.

Drainage System.—
ton, Drainage Dist. No. 1 of Brazoria County, H. N. Perry, Chmn., Angleton, Tex.—Bids until May 19 at office of Munson, Williams & Munson, Attnys., to construct drainage system; to include excavation of 550,000 cu. yds. dirt for ditches, clearing and snagging of streams and construction of bridges and street drains; plans and specifications on file with T. A. Munson, Engr., after April 30; full copies of plans and specifications furnished for \$5.

Drainage.—
ton, Bolivar County Drainage Comms., (J. C. Brooks, Wm. Connell and J. B. Bond), Cleveland, Miss.—Bids until May 3 on following drainage canals, Deeson Drainage Dist.: Main ditch, 9.2 mi. long, average cut 5.6 ft., bottom width 10 ft., excavation 241,630 cu. yds.; lateral A, 1.2 mi. long, 3.9 ft. cut, 10 ft. bottom width, 16,000 cu. yds. excavation; lateral E, 0.9 mi. long, 10.3 ft. cut, 6 ft. bottom width, 40,000 cu. yds. excavation; lateral F, 1 mi. long, 7.7 ft. cut, 6 ft. bottom width, \$23,000 cu. yds. excavation; specifications, etc., on file office of W. W. Boone, Engr., Cleveland.

Drainage Construction.—
ton, Everglades Drainage Dist. F. C. Elliot, Ch. Drainage Engr., Tallahassee, Fla.—Bids until May 29 for following: Construction Danie Canal; improvement Miami Canal between lock and junction with South New River Canal; improvement of South New River Canal; all in Everglades Drainage Dist.; information on application.

Electric Distributing System.—
ton, Yards and Docks, Navy Dept., Washington, D. C.—Bids until May 20 for furnishing and installing electric distributing system at Naval Hospital; plans and specifications on application to Bureau.

Electric-light Plant.—
ton, Equipment, etc.—H. LaSalle.

Electric Motor.—
ton, Ayres & Williams, Orangeburg, S. C.—Standard 15 H. P. electric motor.

Electric Motor.—
ton, Chas. H. Hix, Prest. R. W. Whitehurst Mfg. Co., Norfolk, Va.—Second-hand 15 H. P., A. C., 3-phase, 220 volt electric motor.

Electric Plant.—
ton, Cocoanut Grove Public Utilities Co., T. H. Wyatt, V.-P. and Mgr., Cocoanut Grove, Fla.—Quotations on equipment for electric plant.

Electrical Products.—
ton, Schonfield & Co., 21 Hope St., Glasgow, Scotland.—To represent manufacturers desiring connection with Scotland.

Elevating Machinery.—
ton, W. E. Sudler, Golden, N. C.—Data on chain and hydraulic elevators for placer mining.

Engines.—
ton, Minera Buena Vista.

Feed and Meal Mills.—
ton, Gasins, Jr., Arcadia, Fla.—Data and prices on machinery to hull and grind velvet beans, hull cow peas and rice, grind feed, grits and meal.

Fire Extinguishers.—
ton, Andrew I. Dold, Buckhorn, Va.—Addresses of manufacturers of hand fire extinguishers.

Gas (Cooking) Machinery.—
ton, Cocoanut Grove Public Utilities Co., T. H. Wyatt, Mgr., Cocoanut Grove, Fla.—Prices on machinery to make gas for cooking only.

Gas Generating Device.—
ton, Home Canner Mfg. Co., Hickory, N. C.—Data and prices from manufacturers on gas-generating device to equip continuous heating capping steels. (Prefer device such as used for equipping heating parts of sandirons.)

Gas Stoves.—
ton, Apartment Equipment. A. N. Canton.

Glove Machinery.—
ton, J. E. Conley, Crowder, Okla.—Data and prices on machinery for making canvas gloves.

Grinding Mill.—
ton, W. C. McComb, Waynesboro, Va.—Mill to grind bone; 2½ to 5 tons per 10 hours; delivered at Waynesboro.

Gun (Field).—
ton, Pennsylvania Equipment Co., 1438 S. Penn Sq., Philadelphia, Pa.—3-in. field gun on carriage; good condition.

Hardware, etc.—
ton, See Knitting Machinery. Jalme Michel.

Hardware.—
ton, See Motor Cars, etc.—Compania Nautico Mercantil.

Heating.—
ton, Rev. J. S. Flacks, pastor Congregational church, Paris, Tex.—Prices on hot-air furnace for \$10,000 church.

Heating Plants.—J. A. Eastin, Lexington, Ky.—Prices on heating plant for nine-room bungalow.

Hog (Sawmill).—See Logging Equipment, etc.—F. A. Addington.

Hosiery, etc.—Seelenfreund & Co., manufacturers' agents and merchants, 2 Edmund Pl., London, E. C., England.—To correspond relative to representing manufacturers of overalls, hosiery, etc.

Hullers.—See Feed and Meal Mills.

Ice Plant.—H. LaSalle, Barstow Public Service Co., Barstow, Tex.—Ice plant, 100 tons daily capacity. (See Water-works Equipment, etc.)

Iron, Pipe, Hardware, etc.—Panama Canal, Earl I. Brown, Gen. Purchasing Officer, Washington, D. C.—Bids until May 4 to furnish stay-bolt iron, wrought-iron or steel pipe, brake rods, truck columns, pivot pins, bronze bars, copper wire, cable clips, electric turntable mule, riveting forges, fusible plugs, spark plugs, steam whistles, steam gauges, grease cups, oil cups, steam-gauge lamps, manila rope, air-brake hose, motor-truck tires, cotton-cord packing, leather, saddle covers, paper, sal coda, turpentine substitute, paints, etc.; blanks and general information relating to circular No. 1031 obtainable from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from U. S. Engr. offices in Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile, Galveston, Seattle and Los Angeles; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Iron (Sheet).—See Piping, Sheet Iron, Tinplate, etc.

Kitchen Cabinets.—See Apartment Equipment.—A. N. Canton.

Knitting Machinery, etc.—Jaime Michel, Cortes 464, Barcelona, Spain.—Interested in the following lines for exclusive agencies: Hardware—General machinist tools and forgings, door and trunk and other locks, belt trimmings, buckles and others. General glassware—For laboratory, thermometers and others in this line. Textile and knitting machines and needles for these latter. Office articles as inkstands, double punches, etc. (no furniture). Chemical and pharmaceutical products. Sulphate of copper. Wants best offer and discount sheet; state all other conditions.

Lighting Equipment.—J. A. Eastin, Lexington, Ky.—Prices on electric lighting equipment for 9-room bungalow.

Locomotive.—See Logging Equipment, etc.—F. A. Addington.

Locomotive (Air).—Room 1953, 50 Church St., New York.—6 to 8-ton 24-in. gauge air locomotive; must be in good shape.

Locomotive.—Tolbert Smokeless Coal Co., C. P. Phillips, Jr., Mgr., Beckley, W. Va., 9 or 10-ton saddle-tank locomotive.

Locomotives (Gasoline).—Pennsylvania Equipment Co., 1438 S. Penn Square, Philadelphia, Pa.—Two 36-in. gauge gasoline locomotives.

Logging Equipment, etc.—F. A. Addington, Lanvale, N. C.—Logging engine and cars, 36-in. gauge; 12-in. diameter mill engine; small hog (Mills & Merrill preferred), first-class condition.

Machine Tools.—G. M. Bailey, Keysville, Va.—Engine lathe, 18 ft. by 8 in.; planer of medium size; second-hand rebuilt will answer purpose.

Machinery, etc.—Manuel Sales-Diaz, importer and exporter, 2 and 4 Stone St., New York.—Interested in representing manufacturers of hardware, machinery, hosiery, fabrics, shoes, chemicals, etc.

Manufactures.—Francis Raillon, Pointe n Pitre, Guadeloupe.—To correspond relative to representing American manufacturers.

Marine Supplies.—See Motor Cars, etc. Compania Nautico Mercantil.

Marbleoid Flooring.—Kuehne, Chasey & Giesecke, Austin, Tex.—Prices on marbleoid flooring.

Metal-working Machinery.—C. A. Lantz, 1420 Petronia St., Key West, Fla.—To correspond with manufacturers of sheet metal-working machinery.

Mining Equipment.—Compania Minera Buena Vista (Buena Vista Mining Co.), Bernaza 3, Habana, Cuba.—New and used mining machinery for both development work and operation, including engines, boilers, hoisting engines, ore cars, track, piping, steel cable, etc.; receive catalogues and price lists from leading companies.

Motor Cars, etc.—Compania Nautico Mercantil, Apartado 164, Habana, Cuba.—To represent manufacturers of marine motors, launches, yachts, canoes, oars, nautical instruments, ropes and cables, marine hardware, paints for marine works, as well as for buildings; fishing tackle of every description, bathing suits, sporting goods, automobiles, motor trucks, motor accessories, such as carburetors, colls, plugs and ignition devices.

Office Specialties.—See Knitting Machinery, etc.—Jaime Michel.

Overalls.—See Hosiery, etc.—Seelenfreund & Co.

Paints.—See Motor Cars, etc.—Compania Nautico Mercantil.

Paper Machinery.—Pan, Lippopoulos & Co., 57 Messologion St., Patras, Greece.—Machinery for manufacturing paper.

Paving, etc.—City of Dunn, N. C., J. W. Turnage, Mayor.—Bids until May 1 to construct 25,000 yds. sheet asphalt and gravel paving with cement combined curb and gutters; also 2000 ft. storm sewer; plans and profile on file with Mayor; bidders to file their own specifications; J. K. Strange, Engr.

Paving, etc.—A. D. Stivers, City Engr., Pittsburgh, Tex.—Bids until May 1 to construct 9715 sq. yds. pavement, 3160 lin. ft. curb, 2000 cu. yds. excavation, 8 catch-basins, 1000 lin. ft. 15-in. drain sewer, 300 lin. ft.

sider bids on bitulithic and other special forms of pavement; part new concrete and part old macadam foundations will be used; work including grading; furnishing, placing and constructing granite and concrete curbs; vitrified brick and concrete gutters; storm drains; plans and specifications on file with Theo. A. Hinnant, Town Clerk, and with Anderson & Christie, Consult. Engrs., Charlotte, N. C.; specifications obtainable from Engrs. for \$10.

Piping, Sheet Iron, Tinplate, etc.—Abdoolkader Noorbhoy's Sons, Abdoolrehaman St., Bombay, India.—To correspond relative to representing with manufacturers of aluminum circles, boots and shoes, gas and water tube, galvanized and black, tinplates, umbrella frames, ribs, cotton thread on reel, perfumery, hurricane lanterns, trimmings, old waste newspapers, journals, nails, barbed wire, paints, silk yarn, iron and galvanized sheets, paper, stationery, etc.

Pipe (Culvert).—See Road Construction.—Marion County Pike Commission, Jasper, Tenn.

Piping.—Board of Purchase, E. R. Conant, Purchasing Officer, Savannah, Ga.—Bids until April 25 to furnish city with 1500 ft. 6-in., 750 ft. 10-in., 750 ft. 12-in., and 250 ft. 15-in. sewer pipe; for specifications and further information address Purchasing Officer.

Refrigerators.—See Apartment Equipment.—A. N. Canton.

Rice Mills.—See Feed and Meal Mills.

Road Construction.—Lowndes County Comms., Bent Oak Road Dist., Columbus, Miss.—Will let contract May 10 to construct 4½ mi. macadam road.

Road Construction.—Lowndes County, Second Dist., Highway Commission (T. J. Locke, Jr., D. D. Stephenson and B. A. Weaver), Columbus, Miss.—Will open bids May 10 to construct 10 mi. macadam road; Gus E. Hauser, Engr., Columbus.

Road Construction.—Grainger County Road Commission, H. B. Helm, Chriss, Rutledge, Tenn.—Bids until May 10 to grade 18.7 mi. roads and macadamize 45 mi.; plans and specifications on file at Engr.'s office, Rutledge, on and after May 1.

Road Construction.—Manatee County Comms., Robt. H. Roessch, Clerk, Bradenton, Fla.—Bids until May 24 to grade 18.7 mi. road and grade and surface with sand-asphalt 23 mi. road in Sarasota-Venice Road and Bridge Dist.; 240,000 cu. yds. excavation; 148,000 sq. yds. sand-asphalt surface; 159,000 sq. yds. concrete base; 296,000 lin. ft. concrete curb; 1154 cu. yds. concrete in drainage structures; #412 lin. ft. corrugated metal pipe; 328 piles; 60,000 ft. B. M. bridge timber; 120,000 ft. B. M. timber in protection work; 296,000 lin. ft. wood curb; 148,000 sq. yds. clay base; 148,000 sq. yds. shell base; 11,000 cu. yds. clay shoulders; 98,000 sq. yds. sand-asphalt shoulders; 148,000 sq. yds. oil base; plans may be seen and proposal forms and bond secured at office of Clerk, Bradenton, or of Dist. Engr., Chas. A. Browne, Sarasota, Fla.

Road Construction.—Public Road Commissioners, John Douglas, Supt., Knoxville, Tenn.—Bids until May 3 to grade and macadamize various roads; about 10 mi.; for profiles, specifications, etc., address R. O. Gallaher, County Engr.

Road Construction.—Caroline County Comms., A. S. Handy, Prest., Denton, Md.—Bids until May 9 to improve (State-aid) following roads: Main St., Denton, 10,000 sq. yds. concrete surfacing; Bloomery bridge near Smithville, 150-ft. span steel concrete bridge, with ½ mi. shell road; Low schoolhouse to Greensboro Rd., 2.03 mi. shell road; Federalsburg-Hynson Rd., 2.46 mi. shell road; bids to be made on blank forms, obtainable from State Roads Commission, 601 Garrett Bldg., Baltimore; plans can be seen and forms of specification and contract obtained for \$1 from State Roads Commission; Harry Waldorf, Roads Engr.

Road Construction.—Harrison County Comms., Gulfport, Miss.—Bids until May 1 for road construction as follows: Concrete, brick, wood block, Warrenite, Roemac; approximate quantities: Road No. 1, Gulfport to Biloxi, 126,970 sq. yds.; No. 2, Gulfport to Pass Christian, 112,300 sq. yds.; No. 3, Gulfport to Howison, 199,466 sq. yds.; No. 4, Howison to county line, 199,466 sq. yds.; work contemplated consists of construction and improvement of following roads in Harrison county, Miss.: Beach Front Rd. No. 1, Gulfport to Biloxi, 12 mi.; Beach Front Rd. No. 2, Gulfport to Pass Christian, 11½ mi.; Hattiesburg Rd. No. 3, Gulfport to Howison, 20 mi.; Hattiesburg Rd. No. 4, Howison to Bond, 29 mi.

Road Construction.—Marion County Pike Commission, W. H. Cline, Secy., Jasper, Tenn.—Bids until May 12 to improve roads; 30 mi. grading, 15 mi. macadam and chert, 13 mi. resurfacing; plans and specifications on file at Engr.'s office, South Pittsburg, Tenn., on and after May 1; also receive bids for culvert pipe.

Road Construction.—Doddridge County Court, Hiram Hutson, Clerk, West Union, W. Va.—Bids until May 12 to construct 19.4 mi. roads in West Union Dist.; Northwestern turnpike, West Union Corp. to Central Dist. line, 12,000 ft.; Blue Stone Rd., 9200 ft.; from Wabash bridge to A. T. McCue's residence, 750 ft.; same bridge to foot of hill, 1500 ft.; same bridge to Tyler county line, 39,350 ft.; Rock Run Rd., 968 ft.; Fairview addition, 1351 ft.; Northwestern turnpike from West Union Corp. to Grant Dist. line, 28,464 ft.; bids to include grading, draining, material and labor; plans and specifications on file office County Clerk and Hornor Bros., 314 W. Main St., Clarksburg, W. Va.

Road Machinery.—Barren County Commissioners, Glasgow, Ky.—Prices on road drag.

Roofing.—P. F. Hanchey, Troy, Ala.—Prices on composition roofing for \$8500 dwelling.

Sewer Construction.—See Paving, etc. City of Dunn, N. C.

Screws.—Carlos Yensen, Christiania, Norway.—Iron and brass wood-screws for State

FOR THE BENEFIT OF

ENGINEERS ARCHITECTS MACHINERY DEALERS
CONTRACTORS BANKERS MANUFACTURERS and OTHERS

Who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

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ADDRESS: MANUFACTURERS RECORD, BALTIMORE, MD.

12-in. drain sewer; bids on all classes of pavement; plans and specifications obtainable from City Engr. for \$1; J. F. Reynolds, Mayor.

Paving.—Dept. of Streets and Sewers, E. D. Bass, Commr., Chattanooga, Tenn.—Bids until April 29 to pave with sheet asphalt and asphaltic concrete Long St. from Main to 28th, Mitchell Ave. from Main to 19th, and Read Ave. from Rossville Ave. to 19th St.; being paving districts Nos. 187, 196 and 197, respectively; also separate bids until same date to pave with Portland cement concrete Long St. from Main to 28th St.; blank proposal forms, specifications, etc., furnished on application.

Paving.—De Soto County Comms., Arcadia, Fla.—Bids until May 2 for 561,749 sq. yds. road paving, 600 sq. yds. brick concrete curbing, 400 sq. yds. brick with concrete curbing; plans and specifications on file.

Paving.—W. A. Bullis, Clerk and Treas., North Wilkesboro, N. C.—Bids to construct 400 sq. yds. bituminous macadam pavement: specifications on application.

Paving.—E. F. Killette, Mayor, and Town Comms., Wilson, N. C.—Bids until May 11 to improve streets; about 40,000 sq. yds. pavement, with alternate bids on 100,000 sq. yds.; specifications cover brick, durax block, sheet asphalt and bituminous concrete pavement, and in addition will con-

Piano and Organ.—Rev. J. S. Flacks, pastor Congregational Church.—Prices on piano and organ for \$10,000 church.

Plastering.—P. F. Hanchey, Troy, Ala.—Prices on plastering for \$8500 dwelling.

Plumbing Materials.—Richard W. Burkhardt of Burkhardt Printing & Stationery Co., Tulsa, Okla.—Estimates on 5 bathtubs and plumbing material for same; work done by day labor.

Portable Houses.—Bruton Land Corp., Room 11, Real Estate Exchange, Richmond, Va.—Prices on ready-cut houses.

Pulverizers.—See Crusher (Gyratory) and Pulverizer.—Campbell & Deane Co.

Pump (Mine).—Otter River Mining & manganese Co., Box 137, Lynchburg, Va.—Prices on mine pump and boiler for same.

Rails.—Tolbert Smokeless Coal Co., C. P. Phillips, Jr., Mgr., Beckley, W. Va.—Prices on 45 tons 20-lb. steel rails.

Rails.—McKeel Richardson Hardware Co., Washington, N. C.—8 mi. 40 or 45-lb. relaying rails; state price f. o. b. cars shipping point; also f. o. b. cars Beaufort, N. C.

Rails, etc.—A. A. Luther, Prest., San Antonio & Northwestern R. R., San Antonio, Tex.—Rails and other equipment for construction standard-gauge railway.

Rails.—O'Brien Co., 41 S. 15th St., Philadelphia, Pa.—275 tons 60-lb. rails with splice bars; state price; Eastern Pennsylvania delivery.

Railroad.—See Paving, etc. City of Dunn, N. C.

Screws.—Carlos Yensen, Christiania, Norway.—Iron and brass wood-screws for State

railway car shops; most favorable quotation if possible by return of mail steamer leaving New York April 22.

Seating.—Rev. J. S. Flacks, pastor Congregational Church, Paris, Tex.—Prices on new seats and chairs for \$10,000 church.

Sewage-disposal Plant.—J. H. Fleming, Mayor, Victoria, Tex.—Bids until May 1 to construct sewage-disposal plant; plans, specifications and proposal forms obtainable from L. A. Gueranger, Engr., Victoria, for \$10; C. A. Wertheimer, City Secy.

Sewer Construction.—See Paving, etc. A. D. Stivers, City Engr., Pittsburgh, Tex.

Sewer Construction.—Bond Trustees, Gustav Muller, Acting Chmn., Jacksonville, Fla.—Bids until May 12 to construct 5000 ft. sanitary and storm sewers varying in size from 12 to 51 in.; plans and specifications on file with City Recorder; plans and further information obtainable from L. D. Smoot, Commr. of Public Works, Sewer Dept.; proposal form and specifications attached are based upon city furnishing all vitrified sewer pipe, cast-iron pipe, cast-iron culvert pipe, reinforced concrete pipe and manhole frames and covers.

Sewer Construction.—Sewer Commission, Saml. J. Wright, Chrmn., Newark, Del. Bids until May 8 to construct Sewer Extension No. 2, about 4100 ft. 8-in. and 10-in. terra-cotta sewer, with manholes and fixtures, pumping station, and about 300 ft. 4-in. wood pipe force mains; specifications, etc., obtainable from Kastenhuber & Anderson, Ch. Engrs., Easton, Md., or from Sewer Commission for \$5.

Shovel (Steam).—Clay Products Co., W. B. Martin, Secy., Fairhope, Ala.—Steam shovel; 1 yd. or under; new or good second-hand.

Smokestack.—Hollingsworth Wheel Co., Hagerstown, Md.—Second-hand smokestack; 36-in. diameter and 50 ft. long.

Smokestack.—See Building Material.—Standard Milling Co.

Sprinkler Equipment.—Standard Milling Co., Houston, Tex.—Complete sprinkler equipment for rice mill, Stuttgart, Ark.

Stave Machinery.—A. U. Newberry, Plymouth, N. C.—Addresses of manufacturers of stave machinery.

Structural Steel.—A. F. Delbert, Engr., New Orleans, La.—Structural steel and adjuncts for building large central sugar mill in Cuba.

Structural Steel Building.—Pennsylvania Equipment Co., 1438 S. Penn Sq., Philadelphia, Pa.—Structural steel building about 65x80.

Steam Nigger.—John G. Duncan Co., 30 W. Jackson Ave., Knoxville, Tenn.—Dealers' prices on second-hand medium-size steam nigger.

Tanks (Storage).—Pennsylvania Equipment Co., 1438 S. Penn Sq., Philadelphia, Pa.—Several steel storage tanks, inside enclosed.

Teeth (Thresher).—Chattanooga Implement & Mfg. Co., Chattanooga, Tenn.—Addresses of manufacturers of teeth for cylinders (teeth such as used in grain threshers.)

Tree-pulling Machinery.—Nichols & Campen, Moore Haven, via LaBelle, Fla.—Data and prices on special machinery for pulling and piling small trees.

Tabing (Seamless Steel).—Pennsylvania Equipment Co., 1438 S. Penn Sq., Philadelphia, Pa.—Six pieces seamless steel tubing 6 ft. long, inside diam. 6.34 in., material 5/8 in. thick.

Turpentine Machinery.—Jas. O. Smith, 22 Adelaide Ave., Providence, R. I.—Addresses of manufacturers of machinery for producing turpentine spirits and resin.

Underpass Construction.—C. M. Holland, T. A., Fulton County, 507 Courthouse, Atlanta, Ga.—Bids until May 19 to construct roadway beneath Southern Ry. tracks on S. Pryor St.; work divided into 2 sections—15,000 cu. yds. earth excavation and fill on S. Pryor St. and Ridge Ave. and 25,000 cu. yds. earth excavation and fill on S. Pryor St.; plans and specifications on file with Clerk Comr. of Roads and Revenues of Fulton County, W. T. Winn, Chrmn.

Water-works Materials, etc.—Malcolm H. Holliday, Hargis Commercial Bank Bldg., Jackson, Ky.—Data and prices on appliances and material for construction of water plant; population 3000.

Water-works Equipment, etc.—H. LaSalle, Barstow Public Service Co., Barstow, Tex.—Prices on oil engines of 500 to 1000 H. P.; direct connected, high tension, A. C. generator; ice plant, 100 tons daily

capacity; cast-iron pipe, 4, 6, 8 and 10-in., 100 lbs. pressure per sq. in.; other pipe for carrying water; windmills.

Welding Equipment.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until June 6 for delivering cutting and welding apparatus at naval station, Pearl Harbor, Hawaii. Apply for proposals to supply officer, naval station, Pearl Harbor, Hawaii, or to Bureau.

Windmills.—See Water-works Equipment, etc.—H. LaSalle.

Woodworking Machinery.—High Point Furniture Co., High Point, N. C.—Prices on 3-drum sander, 42-in. preferred; also double surfacer and a scroll saw.

RAILROAD CONSTRUCTION

RAILWAYS

Ark., Bearden.—Cotton Belt Lumber Co. is reported to have let contract for immediate extension of the Bearden & Ouachita River Ry. to Woodberry.

Ark., Bruins.—J. H. Wood and E. R. Blair of Parkin, Ark., and Chas. Foster and C. L. Marsillot of Memphis, Tenn., will build an 8-mi. railroad from a point near Hughes to develop timber lands.

Ark., Sparkman.—Arkadelphia Milling Co. contemplates construction of a lumber railroad from Sparkman, crossing the Ouachita River into Clark county.

Fla., Tampa.—E. J. Binford of Binford & Reed, attorneys at law, Hampton Bldg., Tampa, says survey is made for the proposed interurban railway from Tampa to Lakeland, Fla., 33 mi., via Gary, Mango, Seffner, Dover, Plant City, Youmans and Winston. Notice of intention to incorporate will be given within a week. Franchises obtained everywhere except Lakeland, which will be granted within three weeks. Arrangements for early construction completed.

Fla., Tampa.—Export Phosphate Ry. & Terminal Co. is expected to ask franchise soon for its proposed railroad from Mulberry to Tampa, about 30 mi. Henry Pierce and others are interested.

Ga., Pineora.—Midland Ry., which is being built by George M. Brinson, is reported completed from Pineora eastward 10 mi. toward Savannah.

La., Mandeville.—Franchise for an electric railway from Mandeville to Madisonville and Hammond, La., about 25 mi. has been granted. Address Town Council.

Miss., Beatrice.—J. F. McKinnon of Placita, Miss., is building a standard-gauge railroad from Beatrice to timber lands about 4 mi. northwest.

Miss., Laurel.—E. J. Turner, Vinegar Bend, Ala., and associates contemplate construction of a railroad about 20 mi. long from Leakesville, Miss., west to connect with the Wausau Southern Lumber Co.'s railroad, which runs east from Laurel 12 mi. The Alabama & Mississippi R. R. Co., which proposes the extension, says it is not ready to announce plans. N. E. Turner is Prest.

Miss., Walnut.—New Orleans, Mobile & Chicago Railroad is reported to have let contract to C. G. Kershaw Contracting Co. of Birmingham, Ala., to grade cut-off about 3 mi. long from Walnut to Brownfield, Miss., which will require about 150,000 cu. yds. of excavation.

Mo., Springfield.—St. Louis & San Francisco R. R. has let contract to Johnston, Son & Allhands of Springfield, Mo., to lengthen sidings between Aurora and Valley Park, Mo.

Okla., Beaver.—Concerning the proposition to build the Oklahoma, Kansas & Northern R. R. from Beaver to Liberal, Kans., about 40 mi., one of the interested parties say there is nothing for publication at present. W. P. Byers, Dombeck, Okla., and others are interested.

S. C., Cross Anchor.—Construction of an electric railway is proposed from Spartanburg to Clinton, S. C., about 35 mi., via Walnut Grove, Hobbyville, Cross Anchor and Tylersville. Dr. W. B. Patton of Cross Anchor, A. B. Calvert of Spartanburg, T. B. Thackston of Walnut Grove and others are interested.

Tenn., Memphis.—Yazoo & Mississippi Valley Ry. will realign portions of line between Memphis and New Orleans, covering about 300 mi. and costing about \$500,000. A. H. Egan, Memphis, is Gen. Supt.

Tex., Denison.—Missouri, Kansas & Texas Ry. denies report that it contemplates construction of a line from New Castle to Albany, Tex., about 40 mi.; it is not considered at this time.

Tex., San Antonio.—James A. Baker and Cecil A. Lyon, Receivers International & Great Northern R. R., Houston, have been authorized by the court to issue \$700,000 of receivers' certificates for improvements, including terminal work at San Antonio and betterments to the line. O. H. Crittenden, Houston, is Chief Engr.

of all civilized peoples. To this end he has written with the intention of presenting in concise form the essential facts regarding the ordinary textiles of commerce—the sources of raw material, the methods of manufacture and distribution, the tests to determine quality, the economic aspects of textiles, and the other phases of the subject which are of importance to all who manufacture, sell or use the products of the textile mills.

Auditing Theory and Practice. By Robert H. Montgomery, C. P. A. Published by The Ronald Press Co., New York. 900 pages. Leather. \$5 postpaid.

The second edition of this book, the first of which appeared in September, 1912, is substantially the same as the first, with additions of such material as the author deems necessary and the omission of some thought to be of less interest. Considerable matter appearing in the first edition, such as the chapters on ethics, legislation, C. P. A. questions, etc., has been omitted to make room for the new. The income tax is thought by the author to be a permanent statute of much importance to the auditing profession; hence he has treated it rather exhaustively in the appendix.

The book was written originally in response to an opinion of the author that the demand for a practical book on auditing had not been met. Auditing, in its broadest sense, he takes it, is the most important branch of accountancy and covers much more by rights than former practice dictated.

He notes a marked increase in the scope of the profession at the present. The Development and Properties of Raw Cotton. By W. Lawrence Balls, M. A. Published by A. & C. Black, Ltd., 4-56 Soho Square, London, W. Clothbound. 220 pages. Price \$2.

The main purpose of the book is to present the history of the development of cotton lint, which, although essentially normal and simple, may be, the author thinks, of some ultimate use in removing the mystery which has enwrapped it. With this in view it has been necessary to indicate the manner of the development of the plant on which the lint is borne, and in doing which the author has pointed out some of the more recent views and methods brought to bear on cotton by natural science, and to indicate the practical bearings of such views and methods. Technicalities and jargon outside those pertaining to cotton have been avoided wherever practicable, though a purely popular treatment has not been undertaken. Marginal inserts and topic heads in bold face type have been employed to facilitate reading. Many diagrams and photographs illustrate the matter.

STREET RAILWAYS

Fla., St. Petersburg.—St. Petersburg & Gulf Ry. Co. proposes to extend its North Shore line to Southland Seminary, which will include a bridge over Coffee-Pot Bayou. Oren Kem is Auditor, 4th and Central Aves., St. Petersburg.

Fla., Tallahassee.—A. S. Metzner and associates are seeking a franchise to build an electric street railway on Depot, Gaines, Monroe and Copeland Sts. and Park Ave. Tallahassee Boosters' Club, Mrs. F. R. S. Phillips, Secy., may give information.

Mo., St. Louis.—St. Louis & Jennings Ry. Co. contemplates building an extension of its electric railway to the business district of St. Louis, about 5 mi. David P. Leahy, Wayne J. Stedelin and Arthur J. Stedelin, all of St. Louis, and others are interested.

Book Review.

Textiles. By Paul H. Nystrom, Ph.D. Published by D. Appleton & Co., New York. Clothbound. 335 pages. \$1.50 net.

The hope is expressed by the author that the book will prove of equal interest to retail and wholesale salespeople who wish to increase their efficiency by acquiring a thorough knowledge of the goods they sell; to home-makers who, as consumers of textile products, are concerned with the conditions governing their production and distribution; to educational institutions conducting courses of instruction in the textile fields, and to the general public seeking definite information regarding a class of commodities that occupies an exceedingly important place in world commerce and which has an intimate relation to the comfort and welfare

FINANCIAL NEWS

FINANCIAL CORPORATIONS

Ala., Bessemer.—Alabama Investment Co. of Bessemer has filed articles of incorporation; capital \$4000; incorporators, Fred Wiegelin, Theo. L. Lamar, Charles Harding and others.

Ala., Birmingham.—Empire Security Company has filed articles of incorporation; capital \$2000. Incptrs.: E. F. Enslen, Jr., Prest. and Treas.; J. V. Kidd, V. P., and G. E. Lutz, Secy.

Ala., Birmingham.—Malone Investment Co. has filed articles of incorporation; capital \$15,000. Incptrs.: Robert J. Malone, Prest.; Frank H. Morrow, V. P., and L. C. Cartwright, Secy. and Treas.

Ala., Oxford.—People's Bank of Oxford chartered; capital \$25,000; James Keith, Prest.; O. M. Alexander, V. P., and T. H. Hawkins, Cash. Business began Apr. 8.

Ark., Hot Springs.—Como Trust Co., capital \$50,000, surplus \$5000, is chartered; E. N.

MERCHANTS-MECHANICS NATIONAL BANK

South and Water Sts., BALTIMORE, MD.
DOUGLAS H. THOMAS, President.
JNO. B. RAMSAY, V.P. and Chmn. Bd. of
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Capital \$2,000,000. Deposits \$21,670,000.
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Accounts of Banks, Bankers, Corpora-
tions and Individuals solicited.
We invite correspondence.

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Hopkins Place, German and Liberty Sts.
Capital, \$1,500,000.
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WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
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from Contractors and Municipalities
STACY & BRAUN
Second National Bank Bldg., TOLEDO, O.

FIRST NATIONAL BANK

RICHMOND, VIRGINIA
Capital and Surplus \$3,000,000
JNO. B. PURCELL, President.
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BANKING AND TRUST department gives
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REALTY DEPARTMENT has sites for manu-
facturing industries. Modern methods of man-
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WM. G. TAYLOR, Vice-Pres. and Treasurer.
HARRY W. DAVIS, Vice-Pres. and Secretary.
W. W. PUSEY, 2d Title and Real Estate Officer.

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United States Depository and Disbursing
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Special attention given to collections.

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Roth of Hot Springs, Prest.; Ed H. John-
son, V.P.; John B. Footh, Secy., and John
P. Dick, Cash.

Fla., Leesburg.—Citizens' Investment Co.
has made application for charter; capital \$25,
000. G. G. Ware, Prest.; J. F. Stunkel,
V.P., and W. S. Anderson, Secy. and Treas.

Ga., Atlanta.—Atlanta Commercial Bank,
to be located at Bellwood Ave. and Marietta
Sts., will begin business May 15. Capital
\$25,000. Incls.: Dr. W. B. Chandler, Prest.
790½ Marietta St.; H. B. Davis, V.P., 784
Marietta St.; E. M. Looney, Cash., 195
Spring St.

Ia., De Riddier.—Beauregard Trust & Sav-
ings Bank, capital \$50,000, is organized with
following directors: J. E. McMahon, Chmn.;
J. W. Welbourn, Prest.; F. M. Roberts, 1st
V.P.; P. W. West, 2d V.P., and E. R. Cagle,
Cash.

Ia., New Orleans.—Pan-American Life In-
surance Co. of New Orleans, with capital,
surplus and reserve of \$2,800,000, has ac-
quired control of and will absorb the Mer-
idian Life Insurance Co. of Indianapolis,
Ind., with capital surplus and reserve of
about \$2,500,000. Crawford H. Ellis is Prest.
of the former and Arthur Jordan of the latter.
There will be no change in the officers of
the Pan-American, which will now have
capital, surplus and reserve of more than
\$5,000,000. A division office will be main-
tained at Indianapolis.

Miss., Aberdeen.—Mississippi Loan and
Savings Assn., capital \$30,000, is incptd. by
J. R. Young, R. W. Flynt and others.

N. C., Spruce Pine.—Bank of Spruce Pine
is chartered; capital \$25,000. Incls.: I.
Mack English, Penland; Thos. R. Byrd,
Burnsville; H. R. Royal and others.

Okla., Sapulpa.—Bank of Commerce, capi-
tal \$50,000, will begin business about June 1;
directors, D. A. McDougal, Huber S. Hughes,
W. B. Key, E. E. Cowman and M. V. Walter.
S. C., Dillon.—A new bank is to be organ-
ized with \$50,000 capital by A. B. Jordan
and others.

S. C., Estill.—Commercial Bank chartered;
capital \$25,000. J. S. Williams, Hampton, S.
C., Prest.; W. F. Maner, Garnett, S. C.,
V.P.; W. E. Peebles, Estill, S. C., Cash.
(Previously noted.)

S. C., Georgetown.—Industrial Building
and Loan Assn. is commissioned; capital
\$30,000; petitioners, Edmund Prioleau, J. B.
Brockington, W. O. Simpson, G. W. Howard
and W. J. Wilds.

Tenn., Nashville.—A new bank capitalized
at \$50,000 is being organized by Henry Neu-
hoff, Joseph Scheffer, Harris Solinsky, W. A.
Bryan and A. E. Potter.

Tex., Dallas.—Magnolia Building and Loan
Assn. is chartered; capital \$1,000,000; incor-
porators, A. C. Elbie, W. C. Proctor, D. G.
Stewart, E. D. Smith and others.

Va., Quantico.—A new bank to be known
as either the Bank of Quantico or the First
National Bank of Quantico is being organ-
ized with H. P. Donch, 3013 13th St. N. W.,
Washington, D. C., as Cash.

NEW SECURITIES

Ala., Florence.—Election is to be held May
15 to vote on \$50,000 5 per cent. 30-year \$100
denomination school bonds. M. M. Striplin
is Prest. Board of City Commrs.

Ala., Scottsboro.—Bids will be received
until 11 A. M. May 10 for \$5000 5 per cent.
30-year \$500 denomination water-works bonds.

J. D. Snodgrass is Mayor and W. C. Maples
Clerk.

Ark., Texarkana.—Bids will be received
until noon May 17 for \$150,000 5 per cent. 18-
year bonds Improvement Dist. No. 20. Dated
June 1, 1916. Address John P. Kline, Chmn.
Board of Improvement, Paving Improvement
Dist. No. 20.

Fla., Bonifay.—\$18,000 6 per cent. 40-year
Sub-School Dist. school building bonds are
voted. J. A. Smother is Chmn. of Board of
School Trustees.

Fla., Bradenton.—Bids will be received
until 2 P. M. May 22 for \$250,000 6 per cent.
20-year \$1000 denomination Sarasota-Venice
Special Road and Bridge Dist., Manatee
county, bonds. Robt. H. Roesch is Clk. Board
County Commrs. Further particulars will
be found in the advertising columns.

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Fla., Bradenton.—Bids will be received
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denomination municipal improvement and refunding bonds to be voted on May 16. N. G. Tippit is Mayor.
Md., Cambridge.—\$35,000 5 per cent school bonds are to be issued. Address James R. Jones, County Treas.
Md., Mount Rainier.—\$100,000 water and sewer bonds are voted. Peter J. Hagan is Town Clk. and Treas.
Miss., Canton.—Bids will be received until 10 A. M. May 15 for \$56,000 5 per cent. 20-year \$1000 denomination school and street-improvement bonds. Address W. L. Dinkins, Mayor.
Miss., Canton.—Bids will be received until 11 A. M. May 1 for \$13,000 road bonds. Supervisors' Dist. No. 2, Madison county; interest not to exceed 6 per cent. D. C. McCool is Clerk. *Further particulars will be found in the advertising columns.*
Miss., Gulfport.—Harrison county has authorized an issue of \$125,000 Mississippi Centennial Exposition bonds. Address County Comms.
Miss., Laurel.—At noon May 4 Bd. Supvrs. Jones County will sell to the lowest bidder \$100,000 6 per cent. \$500 denomination road bonds. Bent 2. Dr. S. W. Lindsey of Laurel is Chrmn. Highway Commission.
Miss., New Albany.—Steps are being taken to issue \$10,500 New Albany Separate School Dist., Union county, school bonds. Address Board of Education.
Miss., Raymond.—\$30,000 Hinds county road bonds have been purchased by J. C. Mayer & Co., Cincinnati.
Mo., Ava.—\$15,000 high school bonds are voted. Address Board of Education.
Mo., Bowling Green.—\$100,000 4 per cent. \$500 denomination Pike county courthouse bonds, dated May 1, 1916, and maturing May 1, 1936, have been purchased by Mercantile Trust Co., St. Louis, Mo., at 1.085.
Mo., Cassville.—\$50,000 Monett Special Road Dist., Barry county, bonds are voted. Address County Comms.
Mo., Columbia.—Election is to be held May 2 to vote on \$90,000 school bonds. John Nowell is Clerk School Board.
Mo., Hillsboro.—\$500,000 5 per cent. Jefferson county road and bridge improvement bonds are voted. R. E. Byrd is Prest. County Court and G. W. Gorche Clerk.
Mo., Hillsboro.—\$500,000 5 per cent. Jefferson county road and bridge bonds are voted. Of this amount \$100,000 will probably be issued this year. Address R. E. Byrd, Fetus, Mo.
Mo., Ironton.—Bids will be opened May 1 for \$15,000 5 per cent. \$1000 denomination bonds Ironton School Dist. No. 26. G. W. Farrar is Secy.
Mo., Monett.—\$50,000 5 per cent. 25-year Monett Special Road Dist., Barry county, highway bonds are voted. John Walsh is County Clerk.
Mo., Stansbury.—Bids will be received by C. A. Greenlee, City Clerk, at 8 P. M. May 15 for \$4000 5% per cent. sewer bonds; denomination \$500; dated May 15, 1916; maturity May 15, 1921 to 1928, inclusive.
Mo., Seymour.—\$30,000 5 per cent. 16-year Seymour Special Road Dist., Webster county, road bonds have been purchased by the Union National Bank, Springfield, Mo., at \$42 premium. Chas. W. Sheldon is Clerk of Comms.
Mo., St. Louis.—Steps are reported being taken to call an election to vote on not less than \$1,000,000 school bonds. Address Board of Education.
N. C., Asheville.—Following school bonds have been purchased at 103 by C. N. Malone & Co.: \$25,000 5 per cent. 30-year bonds. West Asheville; \$45,000 5 per cent. 30-year bonds. Biltmore. Address Board of Education.
N. C., Bailey.—\$20,000 school bonds are voted and will be offered in near future. I. N. Glover is Chrmn. Board of Education.
N. C., Blandenburg.—Election is to be held May 1, 1916, Lee county; interest 5% and 6 per

May 11 to vote on \$20,000 public school bonds. Address Board of Education.
N. C., Charlotte.—\$30,000 Huntersville Dist. No. 1 and Dewees Dist. No. 1 4 1/2 per cent. school bonds have been voted, and bids for same will be opened May 1. Address County Board of Education.
N. C., Cornelius.—\$15,000 6 per cent. 20-year school district bonds are voted. J. B. Reading is Mayor.
N. C., Kinston.—\$150,000 1-10-year serial and \$125,000 5 per cent. 30-year improvement bonds have been purchased at par, accrued interest and \$3000 premium by Stacy & Braun, Toledo, O. Amount not stated.
N. C., Lillington.—Water-works bonds are voted. Address The Mayor.
N. C., Reidsville.—\$30,000 5 per cent. 20-year \$1000 denomination school bonds have been purchased by the Wachovia Bank & Trust Co., Winston-Salem, N. C.
N. C., Shelby.—\$40,000 5 per cent. 30-year street, water and sewer bonds are being offered. J. T. Gardner is Mayor. *Further particulars will be found in the advertising columns.*
N. C., Wallace.—\$12,000 6 per cent. \$1000 denomination school building bonds are voted. Address County Board of Education, Kenansville, N. C.
Okla., Altus.—Ordinance has been passed authorizing issue of \$10,000 park bonds. S. E. Hickman is Mayor.
Okla., Alva.—Steps are being taken to call an election to vote on \$65,000 high-school building bonds. Address Board of Education.
Okla., Blackwell.—\$32,000 water-works, \$10,000 electric-light and \$18,000 storm sewer 6 per cent. 25-year bonds were voted April 19. Bonds have been sold to G. L. Gilbert, Oklahoma City. H. R. West is Mayor.
Okla., Oilton.—\$25,000 school-building bonds are voted. E. K. Frank is Prest. School Board.
Okla., Commerce.—Water-works bonds are voted. Address Town Board.
Okla., Geary.—\$21,000 5 per cent. denomination school bonds have been sold to R. J. Edwards, Oklahoma City, for \$21,255 and accrued interest. D. F. Stough is Clerk Board of Education.
Okla., Goltry.—Bids will be received until 8 P. M. May 1 by Joe Madison, Town Clerk, for \$8500 electric light and \$2500 telephone 6 per cent. bonds, dated Jan. 1, 1916. Denomination \$500. Maturity Jan. 1, 1918 to 1928.
Okla., Haileyville.—Election is to be called to vote on \$10,000 Central High School building bonds. Address Board of Education.
Okla., Kendall.—Election is to be held May 2 to vote on \$30,000 6 per cent. 25-year water-works and sewer bonds. C. W. Johnson is Prest. Board of Trustees and Geo. H. Coe, Town Clk.
Okla., McAlester.—\$75,000 school bonds defeated. Another election to vote on a smaller amount will probably be issued. Address County Comms.
Okla., Nowata.—Question of calling election to vote on school bonds is under consideration. Address Board of Education.
Okla., Oklahoma City.—Election to vote on \$1,500,000 water and \$30,000 sewer bonds will be held May 20. Address The Mayor.
Okla., Ponca City.—Bids are being received by C. B. Harrold, City Clk., for \$30,000 5 per cent. 25-year auditorium bonds.
Okla., Sand Springs.—Election is to be held May 2 to vote on \$25,000 school bonds. Address Board of Education.
S. C., Bishopville.—Bids will be opened May 1 for \$800 bonds Cypress Consolidated School Dist. No. 16 and Hebron School Dist. No. 18, Lee county; interest 5% and 6 per

We Finance
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Proven Public Utility Securities
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Electric Bond and Share Company
(Paid-up Capital and Surplus, \$16,000,000)
71 Broadway New York

\$60,000 City of Macon, Georgia, 4 1/2s

Dated June 1st, 1915	Due serially as below	
\$2,000 due 1930	\$ 1,000 due 1936	\$10,000 due 1940
\$5,000 due 1933	\$10,000 due 1937	\$10,000 due 1941
\$2,000 due 1934	\$10,000 due 1939	\$10,000 due 1942
Price to net 4.10%.		

W. M. DAVIS COMPANY
Investment Securities Georgia Casualty Bldg., MACON, GA.

We Buy City, County School and Drainage **BONDS**
FROM MUNICIPALITIES OR CONTRACTORS
We are in position to pay HIGHEST PRICES
Write or wire us your offerings
THE NEW FIRST NATIONAL BANK Assets, \$8,000,000 COLUMBUS, O.

WE BUY MUNICIPAL, COUNTY and DISTRICT BONDS
FROM OFFICIALS DIRECT OR FROM CONTRACTORS
And are Equipped by Experience to Furnish Proper Advice and Legal Proceedings
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THE RUDOLPH KLEYBOLTE COMPANY
18 East Fourth Street Established 1891 Cincinnati, Ohio

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Of Cities, Counties, School, Road or Drainage Districts
AND SPECIALIZE
In Working With Contractors and Engineers
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BALTIMORE OFFICE SUPPLY CO., Inc.
641 COLUMBIA AVE., BALTIMORE, MD.
Manufacturers of
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Marketing Municipal Bonds

Do you know why New York payment of bonds and coupons enhances value?

We shall be pleased to accord the benefit of our 30 years' experience in the Municipal Bond Business regarding contemplated issues.

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LOANS MADE TO STATES, CITIES, COUNTIES, ETC.
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Established 1884 Resources \$21,000,000
MERCANTILE TRUST AND DEPOSIT COMPANY
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We purchase
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Loans made in anticipation of Tax Collections
Southern Issues a Specialty

Correspondence invited from Municipal Officials, Banks and Private Investors
Send for book on "Municipal Obligations"

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EMPIRE BUILDING ATLANTA, GA.
A staff of thoroughly trained and qualified accountants whose experience enables them to make a critical analysis of books and accounts.

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For Bank, Mill, Mine, Factory and Commercial House
BEAUTIFUL WHITE BOND, FULL 20-LB WEIGHT
5,000 for \$8.75 || 15,000 for \$23.50
10,000 " 16.50 || 20,000 " 30.00
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LAREW PRINTING CO. Knoxville, Tenn.

Write us about Investments in Birmingham Real Estate.
Jemison Real Estate & Insurance Co.
Real Estate
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FOR SALE Timber, Coal, Iron, Ranch and Other Properties. Southern States. West Indies Mexico.
GEO. B. EDWARDS (Broker) NEW YORK, N. Y.
Tribune Building. Confidential Negotiations. Investigations. Settlements. Purchases of Property.

Manufacturers and Farm Loans

American manufacturers are making money now. Some of their profits ought to be invested in Farm Loans.

We offer mortgages of the choicest character on farms in Georgia and Alabama. These States are leaders in the great campaign of crop diversification that will revolutionize the South.

It is inevitable that land values will increase from year to year.

THE SOUTHERN MORTGAGE COMPANY
Capital \$300,000 Established 1870
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To Manufacturers and Capitalists

Contemplating the Establishment of Industrial Enterprises

Attention is called to the exceptionally favorable location of

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on Hampton Roads, fifteen miles from the sea, deep water, railway and sea transportation facilities unrivaled. Climate salubrious. Apply to

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SPARTANBURG, S. C.

is one of the only six women's colleges in the South honored by membership as a standard college in "The Association of Colleges and Preparatory Schools of the Southern States." Its B. A. degree is accepted by the highest grade Colleges and Universities and admits, without further work, to candidacy for the M. A. degree. It has separate science, music, and library buildings; dormitories limited to 190; gymnasium and infirmary; 42-acre campus; and 38 teachers and officers. It is thirty-five miles from the Blue Ridge mountains, and has an ideal winter climate. It owes no debts, and has an endowment. It is accessible North, East, South, and West by six lines of railway. If you wish a catalogue, address

ROB'T. P. PELL, Litt. D., President Spartanburg, S. C.

cent. J. T. Munnerlyn is Supt. Board of Education.

S. C., Edgefield.—Bids will be received until 11 A. M. May 10 for \$6500 5 per cent. 20-year bonds Bacon School Dist. No. 34, Edgefield county. E. N. Smith is Clerk Board of Trustees.

S. C., Spartanburg.—\$5000 Enoree School Dist., Spartanburg county, bonds defeated.

Tenn., Covington.—Election is to be held May 15 to vote on \$20,000 6 per cent. \$500 denomination school-improvement bonds; dated May 15, 1916; maturity May 15, 1946. Address The Mayor.

Tenn., Covington.—\$25,000 5 per cent. 20-year school bonds have been authorized by the Tipton County Court.

Tenn., Erwin.—\$100,000 Unicoi county road bonds to be voted on May 20 are 10-30-year 6 per cents; denomination \$1000. R. M. Barry is Chrmn. County Court.

Tenn., Erwin.—\$12,000 6 per cent. 10-30-year school bonds are voted. N. T. Tucker is Mayor.

Tenn., Kingston.—\$20,000 bonds for improvement of high-school buildings at Kingston and Wheat have been voted by the Roane County Court.

Tenn., Knoxville.—Election is to be held Apr. 29 to vote on \$50,000 city park and playground bonds. Address The Mayor.

Tenn., Lewisburg.—\$50,000 5 per cent. 40-year Marshall county high school building bonds have been purchased by L. M. Weather & Co., Menphis, at 104.30.

Tenn., Lawrenceburg.—\$350,000 5 per cent. 40-year Lawrence county road bonds are voted. Address County Judge and Finance Com.

Tenn., Madisonville.—Election is to be held May 31 to vote on \$5000 5 per cent. 15-year school bonds. Address Board of Education.

Tenn., Nashville.—Bids will be received until noon May 10 for \$250,000 20-year Davidson county bonds. Wm. Polard is County Judge.

Tenn., Savannah.—Elections are to be held in Hardin county to vote on bonds as follows: June 3, \$100,000 \$5000 denomination 1-20-year road; July 1, \$150,000 30-year railroad aid. A. A. Watson is County Judge.

Tenn., Sevierville.—\$10,000 6 per cent. 20-year \$500 denomination street and sidewalk bonds have been purchased by a Chicago firm. J. B. Waters is Mayor.

Tex., Anderson.—\$40,000 6 per cent. 1-23-year Grimes county warrants, dated April 11, 1916, have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Aransas Pass.—\$10,000 bonds for proposed Diamond Loop Highway to Padre Island are voted. Address The Mayor.

Tex., Athens.—Precinct No. 3, Henderson county, has voted \$60,000 road bonds. Address County Comms.

Tex., Athens.—Election is to be held May 16 to vote on \$60,000 road bonds Justice Precinct No. 5, Henderson county. Address County Comms.

Tex., Austin.—Attorney-General has approved the following securities: \$200,000 Road Dist. No. 1 and \$25,000 Road Dist. No. 3, Titus county, bonds; \$4000 5 per cent. 10-40-year bonds Poetry School Corporation, Kaufman county; \$2000 5 per cent. 20-year 5-20-year bonds Ellis county, Common School Dist. No. 69; \$3000 5 per cent. 10-20-year bonds McLennan county, Common School Dist. No. 33; \$50,000 4 per cent. street-paving bonds, Taylor; \$225,000 5 per cent. 10-40-year Wichita county courthouse bonds; \$40,000 5 per cent. 15-40-year bonds Big Spring Independent School Dist., Howard county; \$12,000 5 per cent. 10-40-year Mansfield water-works bonds; \$50,000 5 per cent. 20-40-year bonds Caldwell county road improvement bonds Road Dist. No. 3.

Tex., Bastrop.—\$30,000 Cedar Creek precinct, Bastrop county, road bonds are voted. Address County Comms.

Tex., Bay City.—\$100,000 Precinct No. 2, Matagorda county, road bonds are to be offered for sale. Address County Comms.

Tex., Belton.—Election is to be held May 6 to vote on \$3000 bonds Road Dist. No. 14, Bell county. Address County Comms.

Tex., Comanche.—\$20,000 street-improvement warrants have been voted by the City Council. Address The Mayor.

Tex., Corsicana.—Elections are to be held in Navarro county April 29 to vote on road bonds aggregating \$475,000. R. R. Owen is County Judge.

Tex., Dallas.—Farmers' Branch, Dallas county, has voted \$6000 schoolhouse bonds. Address Board of Education.

Tex., Dallas.—\$110,000 drainage and levee

Dist. No. 1 bonds, Dallas county, are voted. Address County Comms.

Tex., Edinburgh.—\$250,000 Hidalgo county road bonds are voted. Address County Comms.

Tex., Fort Worth.—Election is to be held May 6 to vote on \$85,000 bonds Fort Worth Improvement Dist. No. 1, Tarrant county. Address County Comms.

Tex., Franklin.—\$46,000 5 per cent. 10-40-year Justice Precinct No. 8, Robertson county road bonds have been purchased by W. C. Jucksch.

Tex., Gilmer.—\$300,000 Road Dist. No. 2, Upshur county, bonds defeated. O. J. Phillips is County Comms.

Tex., Greenville.—Election is to be held May 6 to vote on \$100,000 sewer bonds. Address The Mayor.

Tex., Guadalupe.—\$10,000 school building bonds recently voted are 30-year 5 per cents. Denomination \$100. Date for opening bids not yet decided. H. A. Zeplin is Pres. School Trustees.

Tex., Hillsboro.—Election will probably be held in Hubbard Road Dist., Hill county. May 24 to vote on \$140,000 road bonds. Address County Comms.

Tex., Kaufman.—Steps are being taken to hold an election to vote on \$1700 of bonds East Fork Academy, Kaufman county. Address County Comms.

Tex., Mount Pleasant.—\$75,000 Winfield precinct, Titus county, road bonds are voted and will probably be offered for sale in near future. Address County Comms.

Tex., Plainview.—\$50,000 Plainview Independent School Dist. bonds have been purchased by the Citizens' National Bank of Plainview at \$1.75 premium. Address Board of Education.

Tex., Sulphur Springs.—\$50,000 road bonds have been voted by Crumby and Breshear, Hopkins county. Address County Comms.

Tex., Troup.—\$17,000 5 per cent. 20-40-year water bonds are voted. Bids will be opened soon. Address City Council, J. W. Meltan, Mayor.

Tex., Shiner.—\$12,000 5 per cent. electric-light-plant bonds are voted. C. G. Garbade is City Secy.

Tex., Tyler.—\$250,000 water bonds have been purchased at \$10,625 premium and accrued interest by Chicago parties. B. P. Gentry is City Clerk.

Tex., Waxahachie.—City will probably issue \$75,000 school-building bonds. Address Board of Education.

Tex., Wichita Falls.—Election is to be held May 23 to vote on \$40,000 street and sewer bonds. Address The Mayor.

Tex., Wichita Falls.—Election is to be held (probably May 23) to vote on \$60,000 school bonds. W. J. Bullock is Pres. School Board.

Va., Altavista.—\$35,000 of bonds for purchase of water-works and sewerage systems are voted. Address The Mayor.

Va., Christiansburg.—\$100,000 4 1/2 per cent. Montgomery county road bonds have been purchased by Baker, Watts & Co., Baltimore.

Va., Richmond.—Bids will be received until noon May 9 for \$2,000,000 4 per cent. 34-year \$1000 denomination bonds for city improvements. Address Board of Finance Committee. Barton H. Grundy, Chrmn. *Further particulars will be found in the advertising columns.*

Va., Salem.—Election is to be held May 15 to vote on \$125,000 Salem Magisterial Dist., Roanoke county, school bonds. W. W. Moffett is County Judge and Chas. D. Denit Clerk. (Previously noted.)

Va., West Point.—Election is to be held May 23 to vote on water, street and sewer bonds. H. Anderson is Mayor.

Va., Elkins.—Bids will be received until 1 P. M. May 1 for \$220,000 5 per cent. 1-24-year \$100, \$50 and \$1000 denomination road bonds. Leadville Dist., Randolph county, voted March 25. W. O. Triplett is Pres. County Court, Elkins, W. Va. *Further particulars will be found in the advertising columns.*

Va., Fayetteville.—Elections will be held in Fayette county May 23 to vote on road bonds as follows: \$600,000 5 per cent. 31-year bonds Magisterial Dist. of Fayetteville; \$350,000 5 per cent. 23-year 6 months Magisterial Dist. of Kanawha; \$175,000 5 per cent. 34-year Falls Dist.; \$100,000 5 per cent. 34-year Nuttall Dist. \$100, \$500 and \$1000 denominations road bonds. June 13 Sewell Mountain Dist. will vote on \$175,000 5 per cent. 34-year \$100, \$500 and \$1000 denomination bonds. R. J. Stegall is Clerk County Court, Fayette County.

Va., Fairmont.—Election is to be held

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Cuba Cane Sugar Corporation

Seven Per Cent. Cumulative Convertible Preferred Stock

Convertible share for share into common shares at any time at option of holder

GUARANTY TRUST COMPANY OF NEW YORK
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COLUMBIA TRUST COMPANY
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Incorporated under the laws of the State of New York.

Preferred as to assets as well as dividends. Redeemable in whole or in part, at option of the Corporation, on any dividend date, on sixty days notice, at 120 and accrued dividends. Quarterly dividends payable on the first days of January, April, July and October.

CAPITALIZATION

Authorized and Outstanding

Preferred Stock, 500,000 shares—par value \$100—\$50,000,000
Common Stock, 500,000 shares—without par value.

NO MORTGAGE OR OTHER BONDED INDEBTEDNESS OUTSTANDING

Cash has been set aside to retire liens outstanding against the properties at the time of purchase.

For information as to the Corporation, reference is made to a letter of Manuel Rionda, Esq., President of Cuba Cane Sugar Corporation, copies of which may be obtained at our office, and from which we summarize as follows:

- 1.—The Preferred Stock is represented by assets consisting of 17 sugar mills, 330,000 acres of land, 395 miles of railway and other property located in Cuba and valued at more than \$50,000,000. (Proceedings for transfer of title to one of said 17 miles have not yet been completed and the amount of its land and railway, when accurately determined, may necessitate some change in the foregoing figures.)
- 2.—The lands of the Corporation are well located; its mills are well equipped.
- 3.—Cuba can produce sugar more cheaply by at least $\frac{1}{2}$ cent per pound than any other part of globe.
- 4.—The Articles of Incorporation provide that an amount equal to 2 years' dividends on the Preferred Shares, shall be accumulated before any dividend may be declared or paid on the Common Shares, and that at no time shall any dividend be paid on the Common Shares which will reduce the accumulated profits below that amount. It is estimated that the earnings for the current year will be sufficient to enable the Company, after paying the full dividend on the Preferred Shares, to set aside this entire reserve fund of \$7,000,000 and still leave a substantial surplus.
- 5.—Lowest average price at which sugar has sold in recent years was $2\frac{1}{2}$ cents, in 1912-13 owing to special causes not likely to recur. Even with sugar selling at 2 cents per pound, it is estimated that the Preferred Stock dividend will be earned at least $1\frac{1}{2}$ times.
- 6.—Important economies of operation are possible, through unified operation of mills located in same district.

Good management is assured through connection with the Corporation as officers and stockholders of Mr. Manuel Rionda and his organization, who have a long record as successful sugar merchants and planters. The Board of Directors consists of experienced business men, many of whom have had long experience in the sugar business.

Market value of the Common Shares, representing the equity in the property, is over \$28,000,000.

All legal details incident to incorporation have been under the supervision of Messrs. Sullivan & Cromwell, of New York City.

Application will be made to list these Shares on the New York and Havana Stock Exchanges

We recommend the above described Preferred Stock of Cuba Cane Sugar Corporation for investment.

**J. & W. SELIGMAN & CO.
NEW YORK**

April 24, 1916.

All of the above Shares having been sold, this advertisement appears as a matter of record only

The above information has been obtained from sources we believe to be reliable, but is not guaranteed.

In Grant Dist., Marion county, May 23 to vote on road bonds. Address County Commrs.

W. Va., Hamlin.—Election is to be held to vote on \$8000 water-works bonds. A recent election carried, but was declared void on account of a technical error. Address The Mayor.

W. Va., Huntington.—Election to vote on \$30,000 4% per cent. \$500 denomination bonds Independent School Dist. of Huntington, Cabell county, will be held May 2. J. K. Oney is Secy. Board of Education.

W. Va., Logan.—\$20,000 5 per cent. 5-20-year Logan Dist., Logan county, road and

bridge bonds are voted. Denominations \$100, \$500 and \$1000. Dated May 20, 1916. Chas. H. Miller is County Clk.

W. Va., Lumberport.—\$20,000 6 per cent. 25-year \$800 denomination paving bonds, dated June 1, 1916, are voted and bids for same will be received until May 25. L. C. Oyster is Mayor.

W. Va., New Martinsville.—Church Dist., Wetzel county, has voted \$240,000 road bonds. Address County Commrs.

W. Va., Parkersburg.—\$42,000 Union Dist., Wood county, road bonds defeated.

W. Va., Sutton.—Election is to be held May 20 to vote on \$6000 5 per cent. 10-34-year

\$200 denomination bonds Flatwoods Independent Dist., Braxton county. B. S. Berry is Prest. Board of Education.

W. Va., Wellsburg.—The election to vote on \$800,000 Brooke county road bonds will be held about June 1. G. C. Wells is Commr.

W. Va., Wheeling.—Election is to be held July 15 to vote on \$300,000 bonds for installing well system of filtration. Address J. H. Brennan, Atty-at-Law.

FINANCIAL NOTES

The Torrens land registration law in Virginia is to become operative June 18, accord-

ing to a report from Richmond, and it is said that a number of banks have announced their intention to accept land certificates issued under the act as collateral for loans.

The Alabama Power Co. has notified holders of its first mortgage 6 per cent. three-year bonds, dated Feb. 1, 1915, that it will exercise the option reserved to it by redeeming the entire issue of \$2,000,000 now outstanding on August 1 at 101 and interest.

The annual convention of the Tennessee Bankers' Association will be held at Chattanooga May 18 and 19, headquarters being in the Hotel Patten. F. M. Mayfield of Nashville is secretary.

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Specialties on Land Drainage, Real Estate Developments, Highways, Bridges, Water Powers, Steam and Electric Railroads. Railroad Valuation, General Appraisals.

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Reports, Plans, Supervision, Drainage, Harbor Work, Water Power, Bridges, Municipal Work and Railways.

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ARCHITECTS
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Fireproof Construction

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SPECIALTY:

Textile Mills and Water Power Developments

GREENVILLE, S. C.



Stone & Webster Engineering Corporation

Constructing Engineers

NEW YORK

BOSTON

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Purchase, Finance, Design, Construct and Operate Electric Light, Gas, Street Railway and Water Power Properties. Utility Securities Bought and Sold. Examinations and Reports.

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Steel Works, Rolling Mills, Blast Furnaces, Hot Blast Stoves, Furnaces for all Purposes. Operated with Producer Gas, Natural Gas, Oil or Pulverized Coal.

Coke Ovens. Gas Producers, Hand Operated or Mechanical.

The Valve of the Era.

SCHILD SLIDING GAS AND AIR REVERSING VALVES

HUNT ENGINEERING CO.

Designing, Constructing and Operating Engineers and Contractors

Experts in Portland Cement Engineering

Examinations and Reports Made

513-517 Republic Building

KANSAS CITY, MO.

Dredging

RIVER AND HARBOR IMPROVEMENTS

Hydraulic Fills Land Drainage Dock Construction

GLOBE DREDGING CO.

SAVANNAH, GA.

THE J. B. McCRARY COMPANY

Engineers

ATLANTA, GEORGIA

MUNICIPAL IMPROVEMENTS

Southern work only. Have built over half of the Water, Light and Sewer Systems in Georgia and Alabama. We Design — Finance — Superintend. Bonds Purchased.

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 City Water Works, Sanitary Sewers, Street Paving, Concrete Buildings.
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SAVANNAH, GEORGIA

Engineers and Constructors

FOSTER & CREIGHTON COMPANY

Engineers and General Contractors

NASHVILLE, TENNESSEE

Steel and Concrete Construction Sawed, Planed, Turned and Cut Stone
 Crushed Stone and Rockwood Oolitic Dimension Stone

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Asbestos and Insulating Engineer

Insulating for Steam-Water Refrigeration. Saving of Heat Units.
 Contracting and Superintendence for any work along these lines.
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Supplies and equipment for manufacturers of all kinds;
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WE LOOK INTO THE EARTH
 By use of Diamond Core Drills
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2623 Whitehall Bldg., New York. 30 Carson St., Pittsburgh, Pa.
 Phone Rector 933. Phone Hemlock 305.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Will Sell Electric Franchise.

An auction sale will be conducted by Schwab Bros. & Co., 1008 Fidelity Bldg., Baltimore, on May 9 at the salesroom of the Real Estate Board, 15 E. Fayette St., Baltimore, of a franchise to conduct an electric light, heat and power business in Baltimore under ordinance of the Mayor and City Council, and of dynamo, engines, cables, etc., used in operating under the franchise; also of contracts under the same.

Engineering Company Incorporated.

The E. F. Hetrick Engineering Co., engineer and contractor, 1502-34 Empire Bldg., Birmingham, Ala., has been incorporated with E. F. Hetrick, Pres., and S. E. Thompson, V.-P. and Sec'y. The company states that it is thoroughly equipped to construct buildings of all classes, but will specialize in reinforced concrete work of all kinds. Contract has just been closed by the company for a reinforced concrete warehouse for the Indian Head Mills, Cordova, Ala., Lockwood, Greene & Co., Archts. and Industrial Engrs., Boston, Mass.

Percy H. Wilson Enters Consulting Work.

Percy H. Wilson, Mem. A. S. C. E. and A. S. M. E. of the Association of American Portland Cement Manufacturers from 1908 to 1915, and who is widely known throughout the country because of his work in the development and expansion of the uses of cement, has opened an office for consulting work at 1223 Land Title Bldg., Philadelphia, Pa. Mr. Wilson has been in close touch with the growth of the cement industry and with the users of cement during the period when it achieved its greatest expansion, and in his consulting work will specialize in cement, concrete, concrete roads, dredging, foundations, educational publicity, etc.

Battery Charging Outfits.

A rectifier outfit has been put on the market by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., for charging batteries for electric vehicles, and another for charging starting, lighting and ignition batteries. The former consists of a transformer-reactance and Cooper-Hewitt rectified bulb mounted on a cast-iron frame. The transformer is said to be so arranged as to deliver, without the use of extra resistance of reactance coils, the gradually decreasing current best suited for battery charging. The latter is a motor-generator claimed to be simple and compact, and can be connected to the most commonly found lighting circuits, namely 110 or 220 volt, 60 cycle, alternating current, or 115 or 250 volt direct current.

Roller Bearing Service.

In calling attention to the growing appreciation of the importance of bearings in motor truck construction, a letter from the

**PATENTS
MANUFACTURERS
B-U-Y**

are the kind we obtain. RELIABLE Books giving particulars and information of great interest and value to Inventors, FREE.

Write R. S. & A. B. LACEY, Patent Lawyers
 790 Barrister Bldg. Washington, D. C.
 ESTABLISHED 1869.

Hyatt Roller Bearing Co., Detroit, states that the hollow spiral construction of Hyatt roller bearings enables them to neutralize in considerable measure the effect of road shocks upon the mountings and other parts of the truck mechanism, thus performing a double service. The incessant jolting under heavy loads to which bearings on motor trucks are subjected necessitates their being of the highest grade of material, properly treated, and of scientific accurate design and finish. Hyatt Bearings are claimed to possess these characteristics in a marked degree.

Furnishes Steel Sash.

All of the steel sash, doors, partitions, continuous sash, and operating device in the 300x100-ft. steel and concrete factory building to be erected for the Baltimore (Md.) Oil Engine Co., Walter M. Gleske, architect, & Gunther Bldg.; Henry Adams, consulting engineer, 1261-9 Calvert Bldg.; the B. F. Bennett Bldg., contractor, 123 S. Howard St., all of Baltimore, will be furnished, erected and glazed by the David Lupton's Sons Co., Philadelphia, Pa., Walter S. Brauns, district representative, 1409 Munsey Bldg., Baltimore. The building is of a modern type of factory construction in which very close attention has been paid to the lighting and ventilating. The side-wall lighting of the shop is accomplished by means of large openings of Lupton steel sash, with suitable proportion of ventilation. Pond continuous sash, designed to exclude the water, even when open in the most severe rainstorms, is used in the sawtooth roof. These sash are hinged at the top and operated in long lines by Pond operating device. As the sash open the load is balanced by means of counterweights running over spirals. The windows in the office portion of the building will be of the Lupton steel sash, counterbalanced type. Formed steel partitions and tube doors of the same make are extensively used in this building.

TRADE LITERATURE.

Textile Directory.

Dockham's 1916 Textile Clothing and Cutting-up Trade Directory has been issued by the Dockham Publishing Co., Boston, Mass., covering the Dominion of Canada. It is arranged as an alphabetical classified list.

Garden Pottery.

Vases, jars, window boxes, pedestals, bench and table legs of classic design in six colors, of Atlantic terra cotta, are illustrated in the April issue of the Atlantic Terra Cotta, issued by the company of that name, 117 Broadway, New York.

Silent Chain Price List.

Catalogue 125 of the Link-Belt Co., Chicago, Ill., recently noted in this column as the first price list of Link-Belt, is, instead, the first price list of Link-Belt silent chain, and is being distributed by the company.

Textile Machinery Exhibition.

A booklet has been issued by the Saco-Lowell Shops, Boston, Mass., illustrating that company's textile machinery used in its method of working cotton waste, most of which is on exhibition at the fifth annual Textile Exhibition held in the Mechanics' Bldg., Boston, April 24 to 29, inclusive, said to be probably the largest exhibition of its kind ever held. This line of machinery has been developed after extensive study of

A. M. LOCKETT & CO., Ltd.

Contracting Mechanical Engineers

COMPLETE POWER PLANTS

Specialists in Construction of Pumping Plants
 for Drainage or Irrigation.



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European methods in manufacturing waste
yarns, where the process is said to have
gone far ahead of American practice.

National Pipe in Large Buildings.

For use of large contractors, architects
and engineers, rather than for general dis-
tribution, Bulletin 25 has been issued by
the National Tube Co., Pittsburgh, Pa., on
National pipe in large buildings. It is di-
vided into three parts, illustrations of build-
ings in which National pipe is used, engi-
neering information and complete indexes.

Moving Material Indian File.

The essential idea of a booklet from the
Link-Belt Company, Philadelphia, with the
above title, is that, while the handling of
packages differs from the handling of bulk
material, yet with conveyors large capacity
is obtained without high speed by keeping
the packages moving continuously in one
direction, approximating a steady flow with-
out lost motion. Illustrations of many such
installations are given to bear out the idea.

Raymond Grinders and Separators.

The leading types of grinding, pulverizing
and separating machines made and installed
by the Raymond Bros. Impact Pulverizer
Co., Chicago, which are said to have been
successful without exception, are shown in
Catalogue 12, recently issued. The manufac-
turer states that, while many grinding plants
require largely the same treatment and equip-

ment, a fact to be emphasized is that an ele-
ment of value to purchasers of the Raymond
system is the service given in studying the
special requirements of each plant and de-
signing installations accordingly. A partial
list of customers includes prominent firms of
the South and Southwest and other sections
of the country.

Hoisting Engines and Derrick FOR SALE

3—Double Cylinder, Double Drum, Hoisting En-
gines.

1—Small Stiff-Leg Derrick

THE JEWEL SUPPLY & EQUIPMENT CO., INC.
34 S. Calvert St., Baltimore, Md.

FOR IMMEDIATE DELIVERY

60-ton Refrigeration each or 20-ton Ice-
Making Vitter Ice Machines direct connected to
Corliss Engine, in first-class condition,
complete with coils and cooling-room pipes.

THE PIEDMONT IRON & METAL CO.
Baltimore, Md.

FOR SALE—CIRCUIT BREAKER

One Back-Connected, Triple-Pole, 600-Volt,
50 Amperes, Form C. P., Hand-Operated,
Overload, 2-Coil Circuit Breaker, mounted on
B. V. M. Sub-Panel. Size 27 $\frac{1}{2}$ x 34 x 1 $\frac{1}{2}$ inches.
Complete with Panel Bolts and fittings.
Price \$50 f. o. b. Oak Ridge, Virginia. Ad-
dress

C. H. YATES
Oak Ridge, Va.

FOR SALE—Wooden Hull 18-Inch HYDRAULIC DREDGE

with pipe line. Dredge in first-
class condition; three years old.

ELICOTT MACHINE CORPORATION

BALTIMORE, MD.

Holt-Morgan Cotton Mills Near Fayetteville, North Carolina, For Sale at Public Auction

By virtue of an order of the Superior
Court of Cumberland County, made by the
Hon. F. A. Daniels, Judge of the Superior
Court, on the 12th day of April, 1916, and the
undersigned, receivers, appointed for that
purpose, will offer for sale, to the highest
bidder, at public auction, at the Court House
door in Cumberland county, city of Fayette-
ville, North Carolina, on the 15th day of
May, 1916, at 12 o'clock M., upon the terms
hereinafter stated, the factory, machinery
and lands, including all buildings, of the
Holt-Morgan Mills, located in the county of
Cumberland, near the city of Fayetteville,
and described as follows, viz.:

SITE—Mills and village located about one
and a half miles south of Fayetteville, and
have a branch track of the Atlantic Coast
Line Railroad running into the yard. There
are 104 $\frac{1}{2}$ acres of land, more or less.

STEAM PLANT—Consists of one 300 H. P.
Lane & Bodley Corliss Engine, 3 Case &
Hedges horizontal tubular boilers, 100 H. P.
each; 1 Brownell horizontal tubular boiler,
150 H. P.

ELECTRIC POWER—Current furnished
by Carolina Power & Light Co. Equipment
consists of 2 motors, 160 H. P. each; 2 mo-
tors, 40 H. P. each, and 1 motor, 60 H. P.

WATER SUPPLY—Is furnished by lake,
supplemented by a deep well, with all nec-
essary pumps, etc.

BUILDINGS—One 2-story brick main
building, 100x244 feet.

One 2-story brick picker-house, 39x50 feet.

One 2-story brick clothroom, 50x36 feet.

One 2-story brick office, 20x30 feet.

One 1-story finishing building, addition,
30x51 feet.

One-story brick engine-house, 34x50 feet.

One-story sheet-iron machine shop, 16x33
feet.

One boiler-house, 40x48 feet.

One wood slasher-house, 20x35 feet.

One 1-story sheet-iron dyehouse, 40x117 feet.

One 2-story sheet-iron dyehouse, 40x54 feet.

One 1-story wood supply-house, 16x40 feet.

One 1-story sheet-iron oilhouse, 10x12 feet.

One wood wastehouse, 18x30 feet.

One wood and brick cotton warehouse, each
compartment 30x34 feet.

One barn.

82 tenement-houses, in good condition, vary-
ing in size from 2 to 7 rooms, 14 of them two
story; total number of rooms 317.

TEXTILE MACHINERY—One C. O. B.
Machine with automatic feeder, Willow and
condenser; 1 waste opener; 1 Atherton 2-
beater Breaker, lapp 40-in.; 1 Hetherington
2-beater Breaker, lapp 40-in.; 2 Atherton 1-
beater Intermediate, lapp 40-in.; 2 Ath-
erton 1-beater Finisher, lapp 40-in.; 20 H. &
B. Cards, 40-in., 100 flats; 14 Hetherington
Cards, 100 flats; 36 Deliveries, H. & B. Draw-
ings; 42 Deliveries, Atherton Drawing, 10-in.
cams; 4 H. & B. slubbers; 52 spindles, each
11x5 $\frac{1}{2}$; 2 H. & B. Intermediates, 94 spindles,
each 9x4 $\frac{1}{2}$; 3 wool socks Intermediate, 84
spindles, each 9x4 $\frac{1}{2}$; 6 H. & B. Speeders, 144
spindles, each 7x3 $\frac{1}{2}$; 5 wool socket Speeders,
144 spindles, each 7x3 $\frac{1}{2}$; 49 Atherton spin-
ning frames, 208 spindles each; 1 freight ele-
vator; 5 Whitin spoolers, 50 spindles each;
2 Lindsay-Hyde reels, 50 spindles each; 1
Ball Warper, 350 ends; 1 Denn Warper, 1980
ends; 1 Denn Warper, 1512 ends; 2 twisters,
14 spindles each; 1 Warp splitter; 10 presser
beams; 2 Whitin Quillers, 378 spindles
each; 16 Fairmont Skein Quillers, 30 spindles
each; 140 Crompton 4x1 box looms with
double index dobbies, 42-in.; 110 Crompton
4x1 box looms, with single index dobbies.

RECEIVERS

S. W. COOPER,
C. C. McALISTER,
J. G. SHAW,
Receivers.

COOK & COOK, Attorneys,
Fayetteville, N. C.

Parties desirous to view the premises or obtain other information at any time, may do so by calling
on Mr. J. A. Withers at the office of the plant, the Receivers, or either of them.

Who Pays YOUR Passenger Service Bills, Mr. "Short Line"?

A Prominent R. R. President Said:

No Fond Parent:

"The essential difference between a Short Line Railroad
and a Branch Line is that the *Short Line has to pay its own bills*, while a Branch Line has a fond parent to help out
when necessary. Our road is a *"Short Line,"* hence the question
of installing and *operating motor cars was to us a serious one.* We had no fond parent to stand the loss if the
proposed new equipment should prove a failure."

Motor Cars Replace Steam:

"Our road is approximately thirty-eight miles long. It
was proposed to *replace one of our steam passenger trains* in
the middle of the day by two motor car trains, leaving the
early morning and the evening trains, steam, as before. Later,
if the traffic warranted it, two more motor car trains
could be added without increasing the equipment beyond the
two cars it was proposed to buy. Steam trains, morning and
evening, could not be discontinued owing to the traffic, both
express and passenger, exceeding the capacity of a motor car."

Studies Motor Cars:

"Before the cars to be purchased were selected we made a
careful study of every phase of the question, extending our
investigations considerably over a year and studying the
cars from the traffic as well as the operating point of view."

Operating Cost Observation:

"One salient fact was apparent with all makes—small
roads whose *motor cars were an important branch of their service* and *large roads operating a number of these cars* showed considerably lower operating costs than large roads
owning but one or two cars."

99% on Time:

"Recognizing the importance of a knowledge of the cars
on the part of the men who were to run and maintain them,
which in our case was emphasized by our intention of
utilizing our cars for high-class, limited service, we arranged
with Mr. McKeen when we placed our order with him to
place our master mechanic and our senior locomotive engineer
in his shops for a month during the construction of our
cars. Later these two men accompanied the cars from Omaha
to our line. That this policy was justified is shown
by the fact that during the year these cars have been in
service they have averaged over 99% on time."

Grades:

"Our cars are 70-foot, straight gasoline type, all steel,
motor cars. They weigh 38 tons, seat 83 persons, and contain a 9-foot baggage compartment. They have been in
schedule operation since September, 1914. The round trip,
including turning, is approximately eighty miles, overcoming a 2 $\frac{1}{4}$ grade for four and one-half miles at one end and a
maximum of 1% elsewhere, and a maximum curvature outside of terminals of 4 degrees. The schedule calls for speeds
up to 45 miles, but this is often greatly exceeded. Our gasoline
consumption of 2.7 miles per gallon is surprisingly low,
especially when it is remembered that on the heavy grades
the motors are in second gear."

Cheap Operating Expense:

"The average cost of operation, including engineer, con-
ductor and trainman, fuel, oil and supplies, maintenance and
repairs, has been for the period (ask for it) cents per car
mile. The monthly expenses of operation have steadily
fallen, due to increasing skill on the part of the engineers
in running the motors, and other economies suggested by
experience."

Increase Traffic:

"The novel and extremely attractive design of the cars,
the easy riding qualities with freedom from vibration and
dust and smoke, the smoothness of starting and stopping,
the safety and reliability of service, and the more frequent
service have all had their effect on traffic, as the gains,
even during this past year of generally decreased riding,
have clearly shown."

McKeen Motor Car Company

Omaha, Nebraska

Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

HAVE YOU A VALUABLE PROPERTY FOR SALE? Farm, timber land, mineral property or any other? We can help you get in touch with possible purchasers by an advertisement in these columns. For rates see head of this department.

FOR SALE—Valuable manganese property, consisting of 1400 acres of land and \$300,000 plant and equipment. The plant is now operated night and day. Big opportunity for person or persons with the necessary capital.

FOR SALE OR TRADE—1000 acres of coal in Braxton county, West Virginia. Railroad runs through the property. Price \$30,000, or will trade for first-class Virginia farm.

FOR SALE OR TRADE—Fine farm of 70 acres in Albemarle county, Virginia, near Charlottesville. Price \$6500. Will trade for good city property.

FOR SALE—Fine farm in Northumberland county, Virginia, fronting on Chesapeake Bay; 170 acres; 150 in cultivation; 20 in woodland; good buildings. Price \$12,000. Reasonable terms.

P. A. Green & Company, Room 11, Real Estate Exchange, Richmond, Virginia.

FORTY ACRES proven mineral land, two miles from Yellville, Marion county, Arkansas, greatest zinc field known. Sulphide and carbonate shown up. Plenty timber and water. Being worked under lease giving owners 10 per cent. royalty. Five thousand dollars for fee. Fredricks, Yellville, Ark.

FOR SALE OR LEASE—A large tract of land containing feldspar (3 to 7 per cent. potash), also fuller's earth and kaolin. This land is close to S. A. L. R. Address Jas. A. & W. E. Hill, Abbeville, S. C.

FOR SALE—Two thousand (2000) acres, absolute title, Pittsburg County, Okla., farming, pasture, coal, oil, gas land; \$10 per acre. Address J. E. Cavanagh, McAlester, Okla.

I HAVE 2000 acres of brown ore lands for sale in Franklin county, Ala. Call or write to C. E. Wilson, Sr., at Russellville, Ala., for price and terms.

ZINC MINE

ZINC MINE, well-developed ore body, on large lease; low royalty; will give good interest for mill. Address W. J. Robinson, Box 777, Joplin, Mo.

COAL AND ORE LANDS

BARGAINS—FOR SALE

10,000 acres Coal Lands in Great Warrior Coal Basin, several miles frontage on Warrior River. These lands carry the celebrated Pratt Seam and other large seams of coal.

I have for sale the largest deposit of Manganese Ore Lands in the whole country, estimated over 3,000,000 tons.

Large tracts of high-grade Coal Lands in Eastern and Western Kentucky.

3000 acres Red Ore Land and 1000 acres Self-Fluxing Ore Lands, well located in Birmingham District. T. S. Smith, 1015-16 First National Bank Bldg., Birmingham, Ala.

COAL LAND AND MINE

MINE READY FOR OPERATION—24,000 ACRES GOOD COAL LAND FOR SALE CHEAP TO CLOSE AN ESTATE. — 24,000 acres good coal land, with a mine ready to operate, power plant, mining machines, cars, etc.; 14 miles of standard and narrow-gauge railroad, connecting with the Southern Railroad at Lime Rock, Ala., 65 miles westerly from Chattanooga; 4 locomotives, cars, 80 dwellings and large commissary. Much valuable hardwood timber, with 2 good sawmills; most of the land on Cumberland plateau suitable for agriculture when cleared; coal known as Belmont Block, very hard, high in volatile matter, excellent for domestic use. Low freight rates and best of markets. For full particulars, price and terms address F. D. Pierce, Bridgeport, Ala.

COAL LAND

COAL LAND in Tennessee on Cumberland Plateau. For sale by non-resident owners. Over 14,000 acres—2 seams—famous Sewannee and Bon Air coals. Best steam, domestic and export coal in the South. Railroad runs through property; good title. Address Owners, No. 1960, care Manufacturers Record.

COAL AND TIMBER LANDS

10,000 ACRES in Bledsoe County, Tenn.; 25,000,000 feet of hardwood, also coal. 25,000 acres in Grundy County, Tenn.; railroad through the property. 109,000,000 feet, also coal, 15,000 acres, Scott and Morgan Counties, Tenn. 50,000,000 feet, also coal and oil, 30,000 acres, 186,000,000 feet, 75% pine timber, in Cumberland and Blaine Counties, N. C. By H. C. Hoggard & Co., Norfolk, Virginia.

FOR SALE—Coal and timber lands in Southeastern Kentucky near railroads; any sized tracts; also mineral and timber tracts in East Tennessee. Spears Havelly, Hubbard Springs, Va.

TIMBER LAND

TIMBER LANDS FOR SALE—23,640 acres in Florida, estimated to cut 70,500,000 feet long-leaf yellow pine, \$40,000 feet of cypress. Also, 50,000,000 feet of pine, cypress, poplar, red and white oak, red and white gum, in South Carolina. This estimate was made by a man of 40 years' experience. Only 1133 acres is in fee; remainder 13 years to cut and remove. H. C. Hoggard & Co., Norfolk, Va.

RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 18c. per line; 300 lines, 16c. per line; 500 lines or more, 15c. per line.

TIMBER LAND

LONG-LEAF YELLOW PINE

We control 400,000 acres of virgin round, long-leaf yellow pine in a solid body, with railroad splitting the tract open through the center. No timber farther than 4 miles from railroad, which railroad can be used for logging purposes. We will sell this in tracts of one million feet upwards at a low price and on easy terms. We also have 100,000 acres adjoining of bled timber similarly situated. Special propositions to sawmill operators or to speculators who would buy the timber on behalf of American Timber Company, Suite 620 City Bank Building, Mobile, Alabama.

FARM AND TIMBER LANDS

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

TWO MILLION FEET of good saw timber (by estimate), together with 450-acre farm. All for \$7500. 5 miles from station. Green & Redd, 9th and Franklin Sts., Richmond, Va.

SEND for Descriptive Bulletin No. 14 on Georgia farms, timber land, stock ranches and pecan groves. Brotherton & Callahan, East Point, Ga. (Near Atlanta).

STOCK RANCHES AND FARMS

60,000-ACRE improved ranch, stocked with Hereford cattle, near railroad; plenty of shallow water and good grass. Box 40, Marfa, Texas.

CITY AND SUBURBAN PROPERTIES

THE CITY OF CHARLOTTE, N. C., in spite of wars and rumors of wars, is going steadily on with its building operations and growth.

Over \$150,000 of new homes just being completed or in process of completion.

Over \$750,000 of business and public buildings in process. We offer several very attractive investment opportunities in central business locations. Also, several very well located suburban tracts which are capable of large profits within the next few years.

Thirty years' real estate experience in New England and in Charlotte at your service in dealing with F. C. Abbott & Company, 1002 Commercial Bank Bldg., Charlotte, N. C.

20 ACRES adjoining the city of Tampa, with one-half mile of bay frontage. This property adjoins one of the most beautiful subdivisions now being developed in the South. If you are looking for subdivision acreage or acreage to hold as an investment, here it is. Price right and terms reasonable. Thos. C. Hammond & Co., Giddens Bldg., Tampa, Fla.

PERSPECTIVE RENDERINGS

BIRD'S-EYE OR GENERAL views of industrial, architectural or landscape subjects executed in water-color or monotype, based upon drawings, photos or general description of premises. Work attractively done. Terms reasonable. J. Ward Franklin, Commercial Tribune Bldg., Cincinnati, Ohio.

FARM AND RANCH LANDS

TEXAS.

10,000-acre improved ranch at \$4.25 per acre. 19,200-acre improved ranch at \$4 per acre. 42,000 acres, improved, New Mexico, \$7 acre. 60,000 acres, New Mexico, \$2.50 acre. 45,000 acres, Texas, improved, \$3.75 per acre. Full and complete description of any of the above tracts upon request. Our information bureau is at your command. Panhandle Land Company, Canadian, Texas.

FRUIT, FARM AND TRUCK LANDS

THESE COLUMNS ARE CLOSELY READ BY PEOPLE for information of all kinds about Southern properties of every description. If you have a property of any kind that you want to dispose of, try an advertisement in these columns. Others have to their advantage. For rates see head of department.

ALABAMA

ALABAMA FARM, 170 acres level land in mile of county site and 40 miles of Birmingham, on good road and bordered by creek; 125 acres cultivated; 6-room dwelling, barn, orchard, etc.; very fine land that will grow all crops and grasses; ideal for stock; best community. Price \$6000, on terms. Address Sid L. Beason, Whitney, Ala.

FLORIDA

FREE, "THE WINTER GARDEN OF AMERICA," to Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida write Indian River Farms Company, 16 Seminole Ave., Vero, Florida.

FRUIT, FARM AND TRUCK LANDS

FLORIDA

FOR SALE—20,000 acres in Palm Beach county; 50,000 acres in St. Lucie county; 12,000 acres in St. Johns county; 20,000 acres in Manatee county; at very attractive prices. Address P. F. Quinn, Vinton, Iowa.

14,000 ACRES East Coast, celebrated Indian River district, combination citrus fruit, truck and general farming land. A strictly high-grade colonization tract. Price and terms upon application. Interstate Land & Investment Co., Lakeland, Fla.

10,000 ACRES rich farming land on paved road and railroad within easy reach of Jacksonville. Can sell at a very low price. Exceptional opportunity for development company to divide this into farms to suit. Sargent & Gautier, 22 Julia St., Jacksonville, Fla.

FOR A SAFE and permanent investment Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 365 producing days. Easy terms. J. Henry Strohmeyer, Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

A FEW HUNDRED ACRES in large and small tracts in Manatee County. Different stages of improvements, suitable for fruit and vegetable growing. My 40 years' experience in the fruit and vegetable business on some of these lands have netted nice profits. F. C. Armstrong, owner, Terra Cela, Fla.

FLORIDA.—8000 acres cut-over land lying between Lake Crescent, Lake Louise and Lake George in Putnam and Volusia counties, traversed by main line of A. C. L. Railroad; large portion especially adapted to orange and grapefruit culture; balance finest potato and general farming land; lands all around selling \$20 to \$100 per acre. My price, \$10 per acre in a body; terms. Correspondence solicited. Chas. A. Brown, Jr., 303 Buckman Building, Jacksonville, Fla.

FLORIDA LAND FOR SALE—20,000 acres of land for sale in Madison County, Florida, for \$5 an acre. This is certainly a bargain, for the owner was offered \$8 per acre for same two years ago. 95% of this land high and dry; title clear; warranty deed and abstract. This land only being on the market for a short time, will accept one-third cash, balance 1, 2 and 3 years at 7 per cent. For full particulars see or write JOE HUNTER WEST, 208 and 210 West Building, Jacksonville, Florida.

GEORGIA

2000-ACRE GEORGIA FARM: close to station; splendidly watered; no swamps; good house and barn; 12 tenant-houses. Produces any crop. Fine for stock. Big bargain, only \$15 per acre. Full description from owner. J. C. Burruss, Empire Bldg., Atlanta, Ga.

MISSISSIPPI

FOR SALE—MISSISSIPPI STOCK FARM. 3000 acres of black sandy loam top soil, 5 to 10 ft. in depth, sodded in Bermuda, red and burr top clover, lespediza and Johnson grass; some blue grass; located in an improved and prospering section of Mississippi, near good town and surrounded by other stock farms. There is no richer soil in the world and the place is well improved. This land sold for \$100 per acre before the coming of the boll weevil. However, there is more money in diversified farming and stock raising than is cotton if one knows how. Price \$45 per acre, on reasonable terms. Land can be sold in sections of 640 acres if no more is desired. We have other listings in this district ranging from 300-acre tracts up at prices from \$5 to \$75 per acre. Get in touch with W. Bailey-Jones Real Estate & Insurance Co., 221 North 21st St., Birmingham, Ala.

1650 ACRES rich bottom land; 700 acres high state of cultivation; residence; 23 tenant-houses; cotton gin, grist mill; 5,000,000 ft. hard wood. Price \$30 an acre; good terms. Would consider some city property in exchange. W. C. Beesley, Natchez, Miss.

FOR SALE—Several desirable tracts of improved farms and plantations in the heart of the Yazoo-Mississippi Delta. Write J. C. Walker, Shaw, Bolivar County, Miss.

MISSOURI

SOUTHEAST MISSOURI LAND. 3100 acres, highly cultivated, adjoining railroad town, Mississippi County; rented $\frac{1}{2}$ all crops delivered.

4500 acres; 2800 cultivated; rented \$6 per acre cash; Dunklin County; adjoining railroad town.

4200 acres cut-over timber land, Mississippi County, Arkansas. All the above land is the best, thoroughly drained; sell in tracts to suit; one-third cash; easy terms. S. J. Burkitt, Moweaqua, Ill.

TEXAS

16,592-ACRE finely improved stock farm at \$22.50 an acre. Must sell in a body; 300 acres in cultivation; \$50,000 improvements. This is the greatest bargain on the market in America. Send for description. No trading. W. H. Graham, Cuero, Tex.

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